NATIONAL PETROLEUM NEWS

Vol. XVIII Cleveland, Ohio, May 26, 1926 No. 21

Puts Out High Test, Anti-Knock Fuel At Regular Tank Wagon Price

CLEVELAND, May 24

WHEN The Texas Co. on May 7 spectacularly launched a "new and better gasoline" in its western marketing territory, it is probable that it set a new mark for refiners and marketers of gasoline to shoot at, at least in the territories where The Texas Co. marketing facilities are extensive in the form of a higher quality gasoline at the regular tank wagon price.

Undoubtedly the mark is one that the refiners and marketers can and will hit, after a little target practice, but it is likely to call for plenty of study and perhaps for a considerable revision of refinery operating schedules and methods.

May 27 is set as the date for the introduction of the new gasoline in eastern territory.

The new fuel is 60-62 gravity and its distillation range as compared with U. S. Motor specifications, follows:

	New Texaco Average	U. S. Motor
Initial	89	131
20%	187	221
50%	260	284
90%	355	392
End Point	396	437

The Texas Co.'s own statement on the new fuel is published on page 72 of this issue.

Fourteen days of experience with the new high-gravity Texaco gasoline leaves the oil jobbers of the middle west pretty much in doubt as to its probable effect on the trade. So far, it looks like a big success for The Texas Co. Their competitors do not deny it. The Texas Co., with its big advertising campaign on the new fuel, has increased its daily gallonage remarkably.

An official of the sales department in Chicago told National Petroleum News on May 20 that The Texas Co.'s daily sales at some of its marketing points had increased more than 100 per cent since the new product was introduced. At other points the improvement in volume had not been so great but he estimated that total sales had improved 50 per cent throughout the Chicago sales territory. In other western regions the public's acceptance of the new product surprised even the sales department. Texas Co. stations in Minneapolis and Milwaukee both ran out of gasoline and had to turn trade away on May 7, the opening day.

Jobbers Hard Hit

INDEPENDENTS marketing in direct competition to The Texas Co., are pretty hard hit, especially where The Texas Co. is the chief competitor. In the southern part of Wisconsin, for instance, The Texas Co. is quite well represented. An extensive trade is done in small towns.

In this section the Wisconsin Independent jobbers have been marketing high gravity gasolines at a premium price for years. The motoring public there is accustomed to associate high gravity with high quality in gasoline. State law even makes Wisconsin distributors post the gravity of their gasoline on their pumps. Naturally, The Texas Co.'s high gravity gasoline at competitive prices developed business quickly in Wisconsin.

The public has been educated to an appreciation of high gravity gasolines in Minnesota also which may account for the "run" on Texas Co. stations there on the opening day of the campaign. But in Chicago, too, where comparatively little high gravity gasoline has ever been sold there was a considerable pick-up in gallonage.

Advertising Schedule

The Texas Co. made the introduction of the new product a spectacular one. The plan to introduce the product at the same time at all stations in western territories was carried out.

On May 7, every town where The Texas Co. has a bulk plant was made the center of an advertising campaign. Daily papers at all these points carried a full page advertisement. The same "ad" was published in all towns. Another full page advertisement appeared the following Friday, May 14. The third "ad" is scheduled to appear in the same string of daily papers on May 28, after which one will appear every two weeks until September.

Cloth signs were exhibited conspicuously at all Texas Co. service stations on May 7. Texas Co. trucks carried banners and pumps were decorated with pennants. The tone of the whole campaign was that of making an announcement: "The new and better Texaco gasoline is here."

Booklets, telling the specifications of the new product are still being distributed to the consuming trade.

Competitors of The Texas Co. are unable to tell so soon in the campaign, what effect it may have on their gallonage. Certain Chicago jobbers admit they are feeling the competition at filling stations that are close to Texas distributors. Independents as a whole are not exercised about the matter, however.

One Chicago distributor stated on Wednesday:

"For several months we have been marketing a product in Chicago very similar to the new Texaco gasoline, except that ours is not a cracked product. Our gasoline has the same I.B.P. as the new Texaco with a slightly higher end, and it has a gravity that runs close under 60 degrees. We have sold it at the regular competitive price (the price of Red Crown) but we have not advertised it as superior. We might have

increased our volume quickly by advertising but we have been content to let the volume grow. We are prepared to compete with any product anybody is likely to sell at the competitive price."

It is impossible at this time for Independent jobbers to tell how much gallonage they may be losing to The Texas Co. In the first place, this is the season when motorists generally change from high test to low test gasoline, if they mean to do so at all.

While gallonage on high test gasoline is having its seasonable shrinkage, the consumption of gasoline generally is increasing by leaps and bounds. Interviews with a number of service station operators reveals the fact that this month is going to pass May of last year by a wide margin.

Watching the Results

"THE manufacture of a gasoline with better than 60 gravity and about a 400 end, marketable at competitive prices, is not an accomplishment that is mysterious," one Chicago refiner pointed out recently. He said, "If the experiment of our competitors prove that the public demands such a product, we will be glad to supply it. A refiner operating a cracking process must cut off his pressure distillate at about 400 end point if he wants to make kerosene and he can well afford to do that with kerosene at present prices."

The remarks of this refiner give rise to a consideration of the market from the standpoint of an integrated oil company. To a large refiner with national marketing facilities, the sales price may justly be figured as the posted tank wagon price. And the price spread between gasoline and kerosene has grown steadily narrower at tank wagon over recent months.

Consider Decatur and East St. Louis, Ill., as cases in point. The difference between kerosene and gasoline at tank wagon prices is 3 cents at East St. Louis and 3.2 at Decatur. In both towns the Q.D.A. will take roughly 2 cents off the gasoline price without affecting kerosene. The difference in actual sales price between the two products is hardly more than 1 cent a gallon. This is not true generally, but the spread is narrow generally.

Of course any refiner can get a greater volume of gasoline and kerosene combined from his pressure distillate than he can of gasoline alone. So the refiner can make more money by cutting kerosene when it is so close to gasoline in price. As long as that condition lasts (and a great many well-informed people think it will last quite a while) there seems to be abundant economic justification for manufacturing 60 gravity gasoline with 400 end.

Jobber Not Eliminated

THE head of a big Independent oil marketing concern in the vicinity of Chicago, in discussing the possibility of having to meet the competition of The Texas Co. recently pointed to information he had gleaned from "Oil Price Handbook of 1925" published by National Petroleum News. He said:

"Sixty gravity gasoline is getting more and more easily obtained every day. It seems to have become an economic cut for refiners to make. Ordinarily the price spread between U. S. Motor gasoline and 60-62, 400 is more than 1 cent. Today there is only one-half cent spread between the two products. At no time in 1925 was the spread between Motor and 60-62 less than 1¼ cents, comparing averages month by month. If today 60-62, 400 e.p. gasoline is the economic product for a cracking process to turn out, it is superior to U. S. Motor gasoline in some ways and there will likely be a reasonable demand found for it. And if that is the case, the Independent jobber can get it and sell it just as he has handled 'Navy' before."

The Texas Co. has put out no official statement as to how the new gasoline is made, further than to say that it was made possible by the Holmes-Manley cracking process. It is interesting to speculate on the refining methods followed. Two chief claims are made by the company in its full page newspaper advertising, for the new fuel.

First, low initial, close distillation range and low end point, in other words, good volatility, which insures easy starting, steady warming up, and complete burning of the gasoline. The point is made that the gasoline-air mixture goes into the cylinders of the engine as a dry gas instead of as a more or less completely atomized mixture of gas, air and liquid gasoline.

Second, good anti-knock quality.

It was suggested in an article published on page 33 of the Dec. 2, 1925 issue of National Petroleum News that refiners in the future would work out an economic means of blending their cracked gasoline of marked anti-knock quality with their straight run gasoline of knocking habits, so that the highest anti-knock value consistent with economic throughput and yield would be obtained.

It seems likely that this is just what The Texas Co. has done, perhaps bringing natural gasoline also into the picture to accomplish it. The advertisements state that the Holmes-Manley process produces naphthenes and aromatics which are anti-knock in effect. It seems likely that the company is cutting deep into the crude on straight refining, taking off a wide gasoline cut, fractionating it carefully in bubble towers to strip out every bit of the light fractions and getting a straight run product that is rather low in gravity and rather high as to initial, keeping the end point to the desired temperature by careful control of the temperature in the top of the bubble tower.

Then, very likely, the straight run gasoline is blended with the cracked product in the proper proportion to give a high anti-knock value, and then the gravity of the blend is brought up and the initial brought down by the addition of the proper amount of natural gasoline.

The close distillation range seems to bespeak very accurate fractionation and also the presence of large proportions of naphthenes and aromatics which have, in general, a more nearly uniform boiling range than the paraffins, although a lower gravity.

No statements are made in the company's advertising as to the degree of anti-knock quality possessed by the new gasoline. It is not stated whether it is equal to Ethyl gas or Nonox or Stellarene or H. C. or Solite or any other product in this respect, or what percentage of benzol mixed with U. S. Motor gasoline it equals. The chances are that it is of just sufficient anti-knock value to meet all conditions in the average present day motor which is usually on the border line between normal and too high compression.

Of course, any refiner can make a 60-62 390 or 400 end point gasoline. The point is that in many refineries such a cut would be very narrow compared with the yield of U. S. Motor gasoline that could be taken off, and making such a cut would leave the refiner with a large amount of heavy naphtha on his hands. Consequently he would have to get a good price to justify him in making the 60-62 gravity stuff on a large scale.

Many refiners doubtless are now in position to do just what The Texas Co. is doing and they will probably start turning out a similar fuel presently. Refiners who are not in a position to do it will probably revise their fractionating equipment and perhaps the running schedule of their straight run and cracking stills to put them in position to meet the new conditions.

It seems likely that The Texas Co. has set a new standard for gasoline, regardless alike of the U. S. Motor specifications and premium high test gasoline specifications, in the territories where it markets extensively.

Coming Meetings

West Virginia Oil Marketers Association, Huntington, W. Va., June 15, 16.

American Petroleum Institute, Standardization Conference, Hotel Broadmoor, Colorado Springs, Colo., June 15, 16, 17.

Minnesota Petroleum Association and Wisconsin Independent Oil Jobbers Association, joint meeting, Hotel Stoddard, La Crosse, Wis., June 16.

Illinois Petroleum Marketers Association Kaskaskia Hotel, LaSalle, Ill., June 23.

Michigan Independent Oil Men's Association, Grand Hotel, Mackinac Island, July 15, 16.

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Published at

TULSA — Bank of Commerce Bldg.
NEW YORK — 342 Madison Ave.
MAIN OFFICE — 814 Huron Road, Cleveland, Ohio
HOUSTON — 608 West Bldg.
CHICAGO — 360 North Michigan Ave.

—N. P. N. Staff Photo

Fourth from left, front row, is R. W. Gallagher, of Cleveland, O., new president of the Natural Gas Association of America. Last man on right in second row is A. W. Leonard, retiring president. To left of Gallagher is Guy F. Batchelor, secretary of the Gas Association. Next to him is John B. Corrin, past president of the association.

Gas Men End Successful Convention; Meet Next in Cincinnati

By A. F. Hinton
N. P. N. Staff Writer

TULSA, May 22

THE Natural Gas Association of America, now having attained its majority, and having celebrated that event by venturing out into the open spaces of the west for its twenty-first annual meeting, wound up its convention May 20 by deciding that both its new president and its next meeting be located farther to the east. In other words, it elected an Ohio man, R. W. Gallagher, East Ohio Gas Co., Cleveland, president, and named Cincinnati as the convention city for 1927.

Mr. Gallagher moved into the presidency in the regular order of succession, he having just completed a term as vice-president in the administration of Archie W. Leonard, retiring president. N. C. McGowen, Shreveport, La., formerly a director, was elected vice-president to succeed Mr. Gallagher. James F. Dye, Pittsburgh, and Raymond Cross, Oil City, Pa., were elected directors. Guy F. Batchelor, Pittsburgh, was re-elected secretary-treasurer, and was highly commended by the nominating committee for the efficient manner in which he had conducted the affairs of the association last year.

At the Post

There was no contest on the floor of the meeting as to selection of the next convention city, Cincinnati being the unanimous choice after the committee appointed to consider this question had recommended its selection. After having decided to meet there next year, there was a feeling among the delegates that the meeting should be held at such time as would allow all of them to witness the running of the Kentucky Derby, which would necessitate a date about a week earlier than this year's meeting. It is apparent that the gas men believe in mixing pleasure with business at their conventions, and don't mind planning for the former a year in advance.

—N. P. N. Staff Photo

Frank Hinderliter, president of the Hinderliter Tool Co., Tulsa, got back from his journey with the Tulsa Booster Trippers in time to mingle with the gas men at the Tulsa meeting of the Natural Gas Association.

Tulsa, which is getting to be a real convention city, now that it has hotel facilities to handle large gatherings, provided the setting for a successful meeting, one of the best the association has ever held, according to some of the old-timers who have been to all of them. A. W. Leonard, prominent oil and gas producer and vice-president of the Oklahoma Natural Gas Co., as president of the association, acted as host, entertaining the convention in his own home town. The Oklahoma Natural organization worked hard and faithfully to make the meeting a success. Reid S. McBeth, who is in charge of publicity work for that company, was chairman of the committee on arrangements and entertainment, and was probably the busiest man in Tulsa during the week.

Free Food

All sessions of the association were held in the New York buildings on the grounds of the International Pe-

troleum Exposition. The exhibits were housed in the Texas building, and practically filled that structure, which is the largest on the grounds. Registration headquarters also were maintained in this building. Continuous bus service was provided for transporting the visitors from the down town hotels to the grounds. Luncheon was furnished to all registrants each day, in one of the Exposition buildings, with the compliments of the Natural Gas Supply Men, Inc., who also provided complimentary tickets for the wrestling match staged the first night of the convention.

All of the business sessions were well attended, and each paper was followed by general discussion, which often continued long enough to cause partial disruption of the schedule. The entire program was gone through with, however, and a great deal of interest was evinced in all subjects discussed. It was announced by President Leonard at the opening of the convention that business would be the order of the day, and that all meetings would start on time, a program that was strictly adhered to.

The social aspect was climaxed Wednesday night, by the annual banquet, held in the Mayo hotel, and attended by about 700 hungry and hilarious gas men and a large number of women. James A. Veasey, counsel for the Carter Oil Co., and prominent for many years in the oil and gas industry in the Mid-Continent, was toastmaster, a position he filled with his usual dignity and eloquence. George E. White, Marietta, O., formerly chairman of the Democratic National Committee, and himself an oil and gas producer, spoke interestingly on public service corporations and the treatment they receive at the hands of state and national lawmakers.

Gov. Trapp is Guest

MARTIN E. TRAPP, governor of Oklahoma, and now candidate for re-election, was an honor guest at the banquet. He welcomed the gas men to the state and assured them that he had the keys to the jail in case any of them got into trouble. Douglas Malloch, Chicago, whose poems and writings are syndicated in newspapers, and who is an exponent of optimism, also spoke.

—N. P. N. Staff Photo

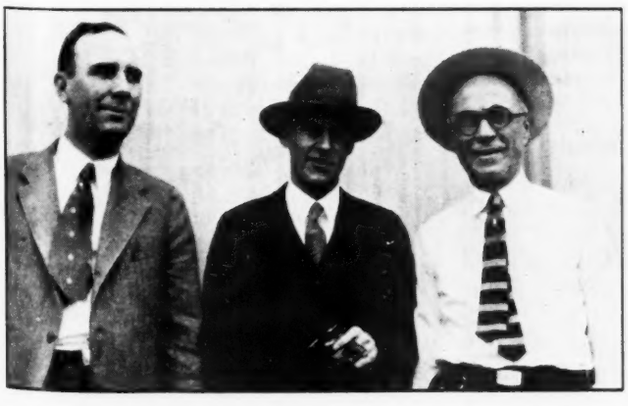
Left to right: Edwin Robinson, secretary of the West Virginia Oil and Natural Gas Association; Archie W. Leonard, vice president, Oklahoma Natural Gas Co., retiring president of the Natural Gas Association; James H. Dye, president, West Virginia Oil and Natural Gas Association. Messrs. Robinson and Dye are directors of the Natural Gas Association.

Between courses, the diners were entertained by dancers and singers, in addition to music by the hotel orchestra. One noteworthy part of the entertainment program was the presence of a group of young Oklahoma Indians of both sexes, each of whom is a student at the University of Oklahoma. They appeared in full tribal regalia. After singing several Indian native songs, they put on what is known in Oklahoma as a "stomp dance", which is a very descriptive name for it. Following these aboriginal demonstrations, one of the party, Welsey Hamm, of the Chickasaw tribe, who is a junior in the law school of the university, talked interestingly on Indians in Oklahoma, and expressed hope that delegates from the east would carry home with them a clearer picture of the state and its inhabitants through having had a glimpse of the Indian as he was yesterday and as he is today. Prof. W. R. Wardell, of the history department of the university, was in charge of the party, and introduced each Indian.

—N. P. N. Staff Photo

No meeting of oil or gas men in the Mid-Continent would be complete without "Wild Bill" Palmer, district manager for the National Supply Co., and here he is at the recent gas men's meeting at Tulsa.

In addition to the scheduled papers, all of which were delivered, one day

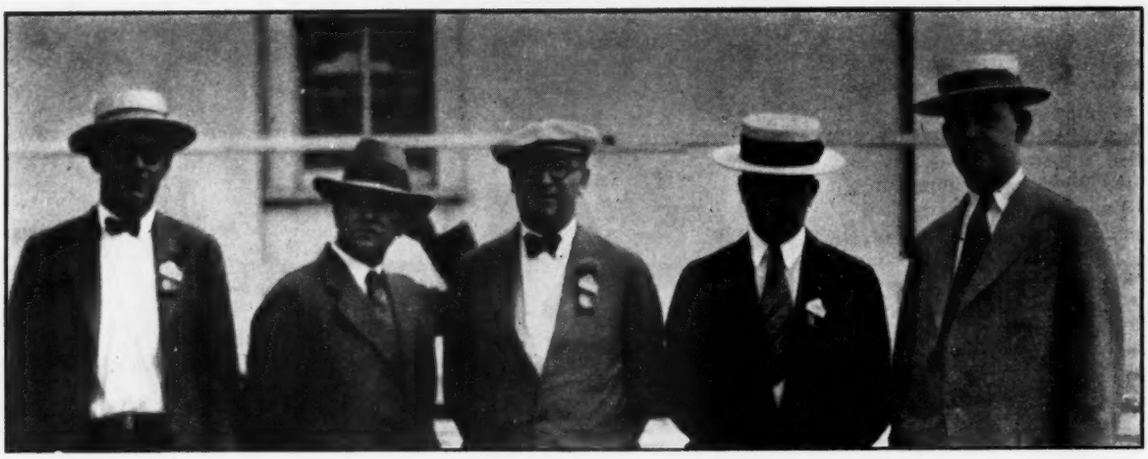


—N. P. N. Staff Photo

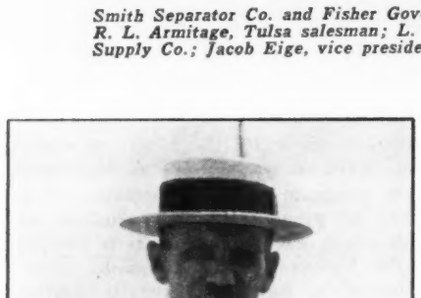
Left to right: Byron Post, Mid-Continent sales manager, Oil Well Supply Co., Fred Robertson, purchasing agent, Skelly Oil Co., and W. B. Glover, sales manager, Oil Well Supply Co., Pittsburgh.

—N. P. N. Staff Photo

Left to right: John B. Corrin, past president of the Natural Gas Association and vice president of the Hope Natural Gas Co., and F. A. Miller, of the Dresser Manufacturing Co., president of the Natural Gas Supply Men, Inc.



Smith Separator Co. and Fisher Governor Co. officials at the Tulsa meeting of the Natural Gas Association. Left to right: R. L. Armitage, Tulsa salesman; L. W. Browne, vice president, Fisher Governor Co., Marshalltown, Ia.; Art Booth, Pittsburgh Supply Co.; Jacob Eige, vice president, Fisher Governor Co., Marshalltown, Ia.; M. F. Waters, general manager, Smith Separator Co., Tulsa.



—*N. P. N. Staff Photo*

T. F. Hudgins, Mid-Continent manager, C. & G. Cooper Co., looking for business at the Tulsa meeting.

was set aside for discussion of various subjects. That day's meeting took the form of a forum, in which a set of questions were asked in the program, to be answered and discussed by the members present. The last day's session

—*N. P. N. Staff Photo*

F. H. Thomas, vice president, C. & G. Cooper Co., Mt. Vernon, O., who was a visitor to the Natural Gas Association convention at Tulsa.

was devoted almost entirely to reports of the various technical committees as to progress made in research work during the year. These included the following committees, with chairmen of each: technical and research, H. C. Cooper, Pittsburgh; gas distribution J. H. Maxon, Muncie, Ind.; gas measurements, F. M. Towl, New York; gas utilization, E. D. Leland, Pittsburgh; gas transportation, H. D. Hancock, Bartlesville; electrolysis correlating, J. D. Creveling, New York; gas safety code correlating, Donald McDonald, New York; and American cast iron pipe standards, F. F. Schauer, Pittsburgh.

Considerable discussion resulted from the request of the American Petroleum Institute that the gas association make up a set of specifications for line pipe, to help the institute in its work of standardization. It was apparent that the association as a whole was of the opinion that little good could be accomplished for the gas man by the proposed standardization, although it was agreed that all line pipe is not what it should be. The principal defect pointed out was roughness at the ends of plain end pipe, which is important now that so many welded lines are being laid, and which makes a good weld difficult to secure. Complaints also were made that there are too great variations in the length of joints and thickness of walls in line pipe as now delivered by the mills.

Hard to Fix Standards

DURING this discussion, it was pointed out that it is more difficult to arrive at a satisfactory set of specifications for line pipe than it was to do so for oil well casing, on account of the fact that line pipe is used by a great many different industries, each of which would have to be satisfied with the standardization specifications, while casing is used only by the oil and gas industry.

It was finally decided that a committee of the gas association would meet

—*N. P. N. Staff Photo*

George W. Stage, special representative, International Supply Co., Tulsa.

with manufacturers of line pipe to ascertain if it would be possible to draw up a set of satisfactory specifications under which all line pipe would be manufactured, and that its report would be made to the directors before the association could say whether or not it would or could comply with the request of the A.P.I. It is probable that this subject will be further discussed at the forthcoming standardization conference of the institute to be held at Colorado Springs, Colo., in June.

William H. Thompson, secretary of the Ohio Gas and Oil Mens' Association, and a director of the Natural Gas Association, reported as chairman of the committee on memorials, and delivered eulogies on the 23 members of the association who had died since the 1925 convention. J. M. Garard, of Columbus, vice-president of the Ohio Fuel Gas Co., delivered a special oration to the memory of W. G. (Bill) Long, who died a few weeks ago, on the eve of fulfillment of his cherished desire to see the gas men hold their annual meeting in Tulsa.

Major Companies Give Up Q.D.A. In Texas Territory

Staff Special

HOUSTON, May 22

THE quantity discount agreement, similar to that of the Standard of Indiana, has been abandoned by the major oil companies of Texas and a straight dealers' discount of 3 cents from the retail price substituted.

The abandonment of the "Q.D.A." followed a trial of many months. The detailed graduated scale of discounts was found to be too complicated, to involve too much bookkeeping but worst of all it seemed to induce more price cutting. In the past, Texas gasoline markets have been slaughtered largely by the smaller dealers and oil companies. The larger dealers, those owning and operating their own service stations, however, adhered fairly well to the recognized market. But the "Q.D.A." gave the larger dealers an additional discount over the smaller ones and the larger ones quickly took advantage of that and went after the small man's business with all kinds of cut prices.

While the present 3-cent discount off the retail price has been in effect only a couple of weeks, and while many retailers are loudly demanding more margin, claiming they can't do business on the 3 cents, oil companies report that many are cutting even that margin, a cent and two cents to get seemingly desirable customers. Quite a number of retailers are reported to be operating largely on a 1-cent margin. Two and 3 cents are the margins obtaining for dealers over the rest of the United States, today.

However, oil marketers of Texas feel that the new arrangement will probably work out the situation in what has been about the worst price cutting territory in the country. There have been many hard fights in Texas, particularly in Dallas, Fort Worth, Waco and other points handy to the north Texas refining district. This has been due to small refiners needing cash and dumping gasoline on the market at any price.

The new arrangement of 3-cent discount off the retail price is handled in a contract which has been adopted in general form by the Gulf, Texas, Magnolia and Pierce. The contract holds the dealer to a maximum amount per month which is estimated to be what he is likely to sell, this to prevent his taking advantage of any unexpected price situation and speculating as a broker with an excess supply of gasoline.

The contract is cancellable at the end of any month on short notice, 10 days generally. The contract specifically says that it cancels and displaces any and all other agreements, written or verbal, or understandings which may have obtained. The companies are trying to wipe the slate clean.

Every reputable retailer is being offered a contract. The discount is not effective to any dealer who hasn't actually signed a contract and only then after it has been approved by the oil company. The discount is deducted from the invoice when it is rendered. This keeps the discount out of the hands of oil company employes and permits general headquarters to control it absolutely.

The oil companies are pushing the signing of these contracts as rapidly as possible and are trying to get them substituted for all forms of existing contracts. In some cases they are unable to accomplish this. There are some leasing contracts in effect which will continue for a while at least, whereby the oil company leases the station and then turns it back to the owner to operate at a salary or commission.

There are also some straight commission contracts whereby the retailer is made the exclusive agent of the oil company and sells only that company's goods. One major company that has some of these contracts says it was forced to adopt them at some points in order to make it easier to prevent substitution of its brands of oil and gasoline.

The Humble Oil & Refining Co., that, while a major company in Texas, does little retail business, says it is not offering contracts but has adopted the same price schedule and differential as the other companies. Independent oil companies over the state are following in one form or another the new policy of the larger companies.

At Dallas a vigorous fight is being made on the new plan by a group of several hundred local Independent retailers who operate service stations or have pumps in front of their garages. They have had an organization for some time known as the Independent Service Stations Association, Local No. 1. They hope to make the organization state wide. They have retained an attorney. The fight has gotten into the newspapers and Lynch Davidson, a wealthy lumber man who is trying to hoist himself into the governorship by lambasting the oil industry, has echoed the dealers' cry.

The contention of the dealers when boiled down, is for a wider margin than 3 cents. They have enjoyed as much as 7 cents in the past. They claim they can't operate and make any money from gasoline sales at 3 cents. They charge the oil companies with being in agreement to enforce the new schedule. This dealers' association doesn't seem to appreciate the uneconomic argument they are making, that they are saying in effect that they are the only dealers in the country who have to have fat margins to get by, nor of course has that dawned on the politicians, nor has the further fact that if the dealers were successful, the public of Dallas would be paying a higher margin than any other public in the United States. Politics is much hotter, one might even say more ignorant, more rabid, in Texas these days than most anywhere else.

Tennessee Price Suit Hearing Postponed

CHATTANOOGA, TENN., May 24.—Hearing of the suit of Independent gasoline marketers of Tennessee against the Standard Oil Co. of Louisiana and other major distributors has been postponed from May 31 to July 19. Hearing will be in Chattanooga and not at Murfreesboro as previously set. A temporary injunction granted the Independents by Chancellor Lytle on April 1 is continued until July 19.

Under the temporary injunction major distributors are prohibited from selling gasoline at tank wagon at less than 3 cents per gallon more than the tank car price of the gasoline, Group 3 base, plus freight to destination and state tax.

It was charged in the complaint of the Independent jobbers, filed in January, that the Standard had conspired with its agents and other major distributors had acquiesced in the conspiracy to sell gasoline to large consumers at a price which would drive from competition the smaller distributors. Motor vehicles of large consumers, it was charged, were able to buy gasoline at the defendants' service stations at the tank wagon price as posted by the Standard and followed by other major distributors, which price was approximately the price the Independents paid for their gasoline in tank car lots laid down in towns where they had established their businesses.

A temporary injunction against the alleged practice was issued in January and in February a citation of contempt was filed against the Standard. Hearing on the citation was held March 12 but owing to the illness of the chancellor, decision was not handed down until April 1 and the case ordered heard on its merits within 60 days. The end of the 60-day period fell on May 31.

Oklahoma Jobbers to Meet July 8

TULSA, May. 24,—Directors of the Oklahoma Oil Jobbers Association met in the office of the secretary at Oklahoma City on May 20, as a part of a regular schedule of such meetings planed for this year.

A general meeting of the association was called to be held at Oklahoma City on July 8.

Refinery Combines Contact Filtering And Centrifugal Dewaxing

By Paul Truesdell
N. P. N. Staff Writer

Article 1

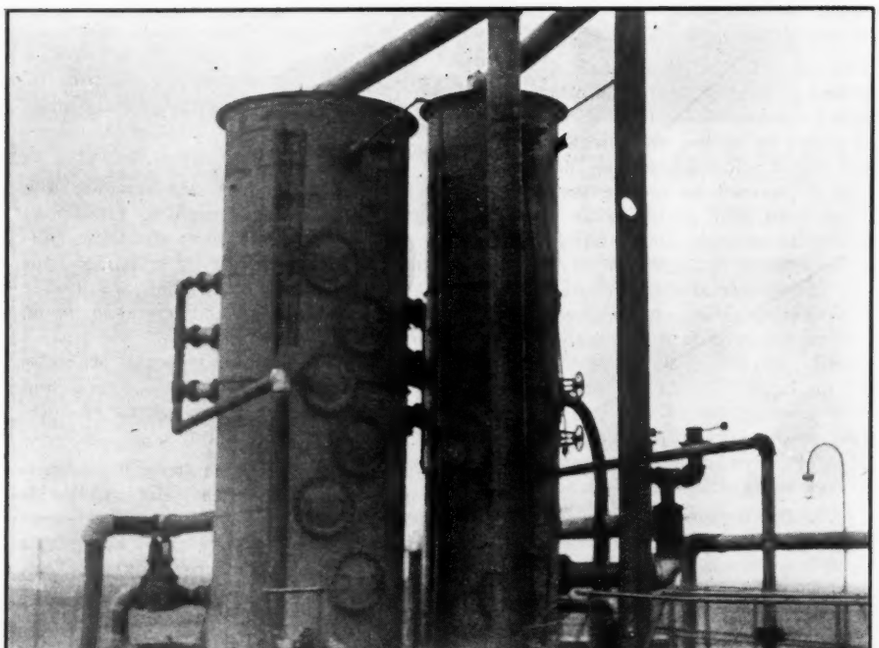
FORT WORTH

MANY interesting ideas, some of which, perhaps, have never been tried before, are being worked out by the engineers of the Texas Pacific Coal & Oil Co. in rebuilding the old skimming plant of the Montrose Oil & Refining Co. here into a complete, modern lubricating oil plant. It is expected to be in operation by June 1, running 3000 barrels of crude a day.

Dr. E. R. Lederer, who has had long experience in the refining business, both as an operator of plants and as a consulting engineer, is vice president of the Texas Pacific in charge of refinery operations and is in direct charge of the construction work involved in the remodeling. Many of the ideas being embodied in the plant are his. A. H. Mayo, formerly of the Waverly Oil Works, Pittsburgh is superintendent of the plant and he too has contributed many ideas.

Perhaps the most unusual and interesting feature of the plant is the method that has been worked out through a long series of laboratory experiments and calculations, to use a combination of the contact filtering process and the Sharples centrifugal de-waxing process.

In fact, according to Max B. Miller, head of the company that bears his name, the contact method as it is to be used in this refinery was developed largely by himself and his engineers. The Texas Pacific is licensed to use it by Mr. Miller through an arrangement with the Standard Oil Co. of California which owns patents covering several phases of contact filtering.



Two Badger bubble towers at the Fort Worth refinery of the Texas Pacific Coal & Oil Co.

Seeking Cheaper Clay

THE refinery has a very complete and well equipped laboratory, including experimental shell and pipe stills, in charge of F. R. Staley, chief chemist. Mr. Staley was for many years with the Atlantic Refining Co. at its Point Breeze and Pittsburgh plants. Work is now going on under his direction, testing out the properties of various clays found nearby in Texas with the hope of finding a material that will give as good results as the California, Arizona and Colorado clays at less cost for transportation.

When the Texas Pacific took over the Montrose plant, its distillation equipment consisted of seven 12 by 30 shell stills, set in the conventional way, at different levels suitable for continuous running of crude through the battery by gravity. How these stills have been adapted with a minimum of expense to operate under an entirely different and more efficient schedule is an interesting story by itself.

In order to make the narrative orderly, the progress of the crude through the plant will be traced step by step.

Distillation and Fractionation

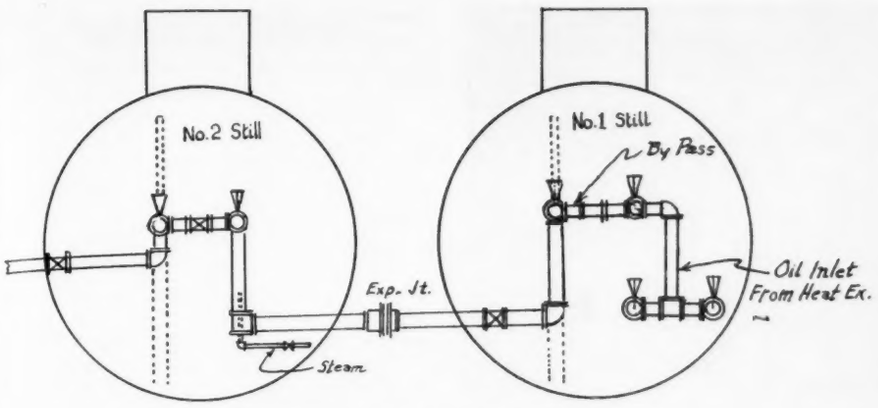
THE raw material on which the refinery is to operate is Ranger crude, brought in by pipe line. It is planned to run it to about 440 F. flash, taking off the light cuts and running the rest to lubricating oil by the long residuum process.

The crude distillation and fractionation will be carried on in four of the seven shell stills which have been equipped with four Badger bubble towers of varying sizes.

The crude on its way to No. 1 still is pumped through a conventional tank type heat exchanger countercurrent to the hot long residuum being pumped out of the last still, No. 4. The heat extracted from the residuum brings the crude up to about 250 F. From the heat exchanger the crude goes into a small auxiliary tower above the first still. This tower was in place when the plant was taken over. It contains neither bubble plates nor packing but by slowing up the rate of travel of the stream and affording room for evaporation it causes the lightest fractions of the crude, those boiling at 250 and below, to vaporize.

These light vapors are taken off the top of the tower, led through the condenser and tailhouse and to the gasoline storage tank. The unvaporized portion of the crude flows by gravity into No. 1 still. It is introduced into the still through a six-inch line which enters through a flange in the front, runs the entire length and discharges the oil at the extreme rear end of the still.

The vapors from No. 1 still pass into the bottom of No. 1 bubble tower, which is three and a half by five feet in size. The vapors passing over the top of this tower are condensed into gasoline and the bottoms are refluxed into the still from which they came. The bottoms from No. 1 still are transferred continuously into No. 2 still but instead of depending on gravity flow, the transfer is made by means of a steam lift or steam jet. It is realized



Elevation of Piping for Continuous Stills

Piping on still fronts for transferring oil from still to still by steam lift.

A. H. Mayo,, superintendent of the Fort Worth plant of the Texas Pacific Coal & Oil Co.

that the principle of the steam lift or air lift or gas lift is well understood in the engineering world and that this is not the only plant where the steam lift is used in transferring oil from still to still but its use in refineries is not common.

How Steam Lift Works

THE steam lift installation and its operation at this plant is thus described by Mr. Mayo.

The transfer line, of six-inch diameter, enters through the front of the still on a level with the crude inlet line and, just inside the still, turns downward at right angles through a T fitting and extends to within four inches of the bottom. Outside the still the line is fitted with an elbow which turns it downward for about four feet. A nipple which is fitted with an expansion joint, leads from this elbow to a T in front of No. 2 still, from which a riser leads up to the center of the front, through which it enters in the same manner that the inlet line enters No. 1 still.

Into the bottom end of the T in the transfer line in front of No. 2 still is swedged a small steam line. Through this line a jet of steam is continuously fed through a one-eighth inch hole under the plant boiler pressure of about 100 pounds. Eighty pounds of pressure will serve the purpose, Mr. Mayo says.

The steam, forcing the column of oil in the riser upward, forms a siphon, continuously sucking out the oil, which it picks up near the bottom, from No. 1 still.

Into the top of the T in the outlet line inside of No. 1 still is swedged a length of two-inch pipe extending upward with the open end above the level of the oil and within an inch or two of the top plates of the still. This vent pipe acts as a siphon breaker in case for any reason the oil level in the still should fall below the mouth of the inlet pipe, and would prevent any possibility of sucking the still dry.

Mr. Mayo's theory is that this arrangement of the piping of the stills increases their efficiency considerably for two reasons which he gives as follows. First, running the oil inlet line the entire length of the still before discharging the oil gives the latter the benefit of the longest possible exposure to the heat in the still. Where the inlet and outlet lines are in the front of the still at the same level, Mr. Mayo says that the incoming oil is often caught immediately by the outlet pipe and carried out before it has a chance to vaporize and also that an outlet line at the oil level often carries over vapors as well as oil, thereby putting on the next still a load that should be handled by the first.

Heaviest Fractions Picked Up

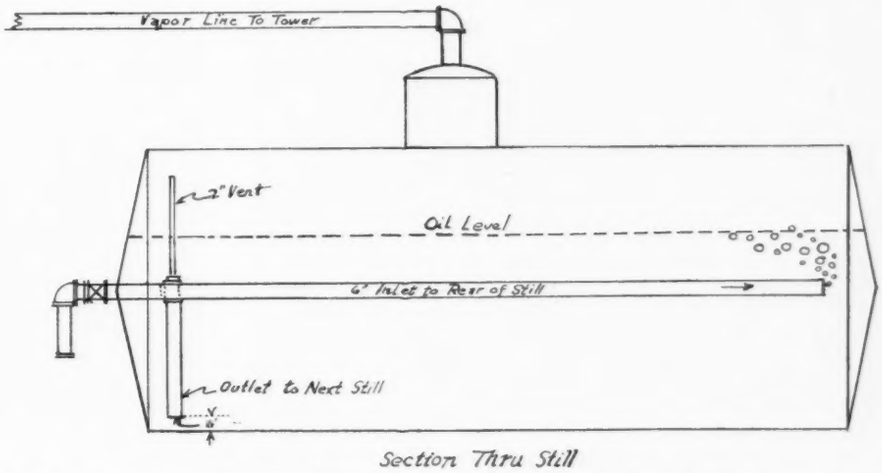
SECOND, he says, the fact that the outlet line with his steam lift installation picks up the oil from the bottom of the still assures that the oil carried into the next still will be the heaviest fractions, which is what is desired.

From No. 2 still the vapors go into the bottom of No. 2 bubble tower which is three and a half by seven feet. The vapors which pass out at the top of the tower are condensed as gasoline and the bottoms are refluxed back into No. 2 still.

Instead of passing into No. 3 still direct, the bottoms from No. 2 are steam-jetted in the manner described into No. 3 tower at a point about midway of its height while the vapors that come off the still pass into the bottom of No. 3 tower. The passage of the vapors through the shower of bottoms gives very efficient scrubbing. No. 3 tower, on account of this extra work assigned to it, is larger than the others, being four and a half by 10 feet. The bottoms from No. 3 tower are refluxed into No. 3 still.

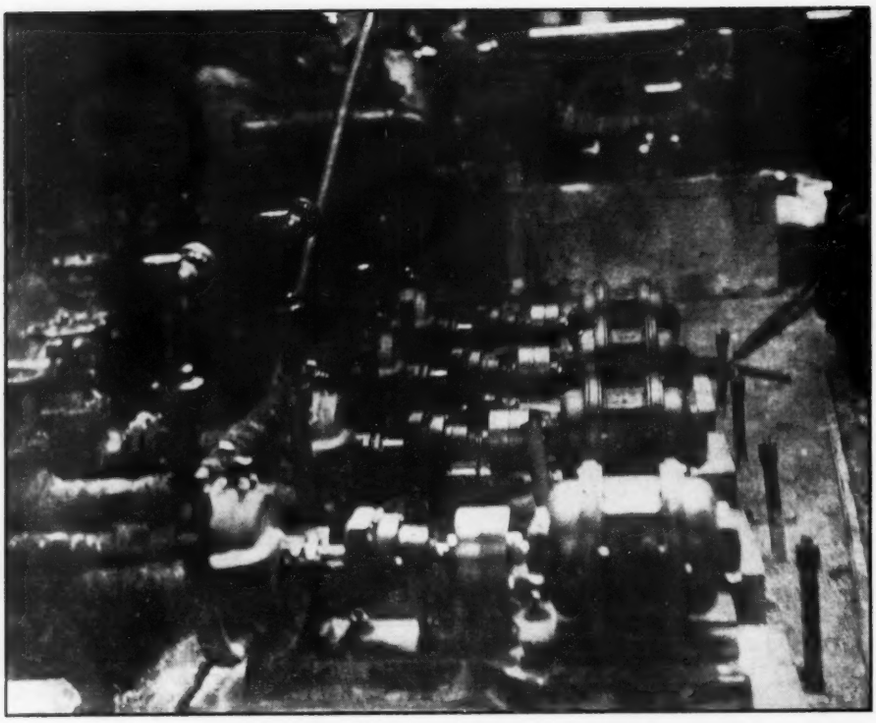
The steam jet outlet line from No. 2 still, instead of having a fall of only about four feet, extends downward clear to the ground it being necessary to have a greater gravity head in the line to enable the steam to lift it to the height of the tower inlet which is considerably above the level of the stills.

In this case, the advantage of the steam jet is more pronounced than in the simple transfer of oil from still to



Section Thru Still

Side view of still showing arrangement of piping inside still for steam lift transfer and oil intake.



Four specially designed Goulds centrifugal pumps used to control tower temperature by pumping in cold oil over the top. These pumps are regulated by thermocouple and electric control.

still because its use eliminates the considerable cost of installing a hot oil pump to carry the oil into the tower.

Three streams are taken off No. 3 tower. The vapors that pass over the top condense into kerosene. From a lower pan is taken an absorption oil stream and from a still lower one a light distillate. The bottoms from No. 3 tower are refluxed into No. 3 still. The bottoms from No. 3 still are steam-jetted in the manner described into the middle of No. 4 tower where they meet the vapors from No. 4 still which come in at the bottom of the tower. The bottoms from No. 4 are refluxed into No. 4 still from which the residue is pumped out continuously through a heat exchanger as described, warming up the incoming crude, to long residuum storage.

Temperature Automatically Controlled

THE temperature in the towers is controlled by pumping in cold oil at the top as needed. This is done by four small, specially designed Goulds centrifugal pumps, driven by individual electric motors. The pumps are governed by Taylor automatic temperature control instruments which are operated by thermocouples in the towers.

A rise in temperature causes the mechanism of the controllers to move in such a manner as to close an electric circuit and start the pumps. When the amount of oil pumped in is sufficient to cause the temperature to drop to the desired point, the controllers break the circuit, and stop the pumps.

Each of the towers, of course, operates independently of the others, each having its own temperature control instrument and pump and each being set to maintain a different temperature according to the end point of the product desired.

The oil used for pumping over the top to control the temperature is the cold condensate of the vapors going off the top of each particular tower.

Article 2, to be published in the June 3 issue will describe the lubricating oil side of the plant.

Program for Oil Board Hearing May 27

WASHINGTON, May 22

SECRETARY WORK, of the Interior Department, as chairman of the President's oil board, today made public the program for the public hearing which the board will hold on May 27, at 10 a.m., at which former Secretary of State, Charles Evans Hughes, will appear as counsel for the American Petroleum Institute.

In addition to Mr. Hughes, those who will be present and possibly address the board, include Henry L. Doherty, of New York; Leod D. Becker, executive secretary, American Oil Burners Association of New York; and Hjalmar Nilsson, chief oil inspector for the State of Minnesota, with headquarters in St. Paul.

The full board, consisting of Secretary Work, chairman, Secretary of War Davis, Secretary of the Navy Wilbur, and Secretary of Commerce Hoover, together with the members of the board's technical committee, will meet in the office of the Secretary of the Interior, in the Interior Department Building.

Secretary Work, on behalf of the board, has invited Secretary of State Kellogg to be present at the hearing, in view of the international phases involved in the general oil problem. Mr. Kellogg has indicated his intention of attending, providing pressure of official work is not too great on the day of the hearing.

Immediately after the hearing, the board will address itself to the formation of a preliminary report embracing conditions attending domestic production, distribution, refining, etc., after which two additional reports, involving foreign development, and the development of possible substitutes, will be prepared. These three reports ultimately will be incorporated into one general report, which will constitute a world survey of petroleum conditions. The first, or preliminary report, concerning domestic conditions, will likely be ready for submission to the President within the next thirty days.

Sealers' Papers Deal With Handling Oil

WASHINGTON, May 24.—Devices for the handling, measuring, and storing of petroleum products will be discussed at the annual conference on weights and measures to be held May 25 to 28 in Washington under the auspices of the Bureau of Standards. Six papers in which the petroleum industry is interested, will be presented. They are:

Afternoon session, May 25, "Bottles for the Sale of Lubricating Oils," by H. R. Estes, sealer of weights and measures, Flint, Mich.; same afternoon, "The Gauging of Fuel Oil Storage Tanks," by E. L. Peffer, Bureau of Standards.

May 26, afternoon session, "The Measurement of Petroleum Products," by Charles H. Fuller, sealer of weights and measures, Los Angeles.

May 27, morning session, "Use of Auxiliary Automobile Tanks for Checking Gasoline Deliveries," by Theodore A. Seraphin, district supervisor of weights and measures, Philadelphia; Thomas Flaherty, sealer of weights and measures, San Francisco; and M. A. Bridge, sealer of weights and measures, Columbus, O.

May 27, afternoon session; "Mandatory Net-content Marking of all Commodities in Package Form," by James H. Craig, deputy secretary of internal affairs, Pennsylvania, and L. R. Travers, director of weights and measures, of Virginia; and a report on "Modification of the Specifications and Tolerances for Liquid-measuring Devices."

READING, CINCINNATI, O.—Eureka Oil Co.—has just completed the installation of two new 20,000 gallon storage tanks at its bulk plant here, to handle the increasing demand for White Dove products, reports F. H. Dinkelmann, secretary and treasurer.

Left to right: Harry M. Sample, Marland Oil Co. of Texas, San Antonio, the new president; W. N. O'Roark, Standard Oil Co. of Louisiana, Shreveport, first vice president; N. E. Tanner, Humble Oil & Refining Co., San Angelo, second vice president; J. H. Chisholm, Pure Oil Co., Mexia, chairman of executive committee; C. W. Wise, Texas Pipe Line Co., Fort Worth, secretary-treasurer.

Oil Scouts Plan Constructive Work In Expanding Organization

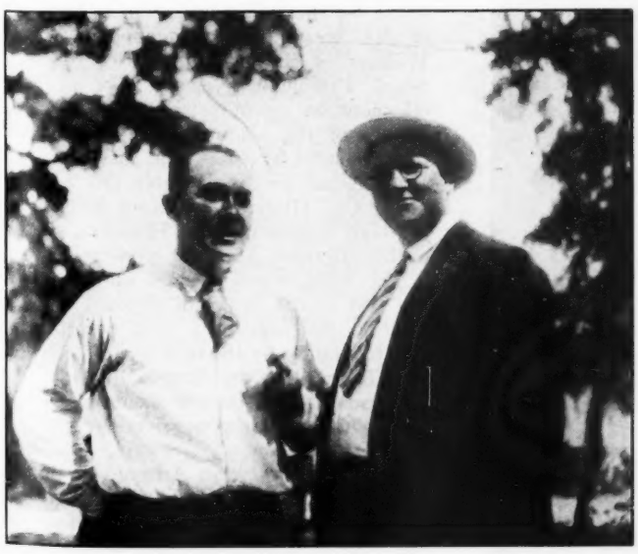
By Paul Wagner
N. P. N. Staff Writer

SAN ANTONIO, May 20

THE "eyes" and the "ears" of the petroleum industry this week left their third annual convention, that of the National Oil Scouts of America, with the firmly settled conviction that the organization's good work can be broadened; and the newly elected officers, in accepting their posts, pledged to their associates that they would in every proper manner bend their energies to the bringing about of the greatest efficiency possible in organization work.

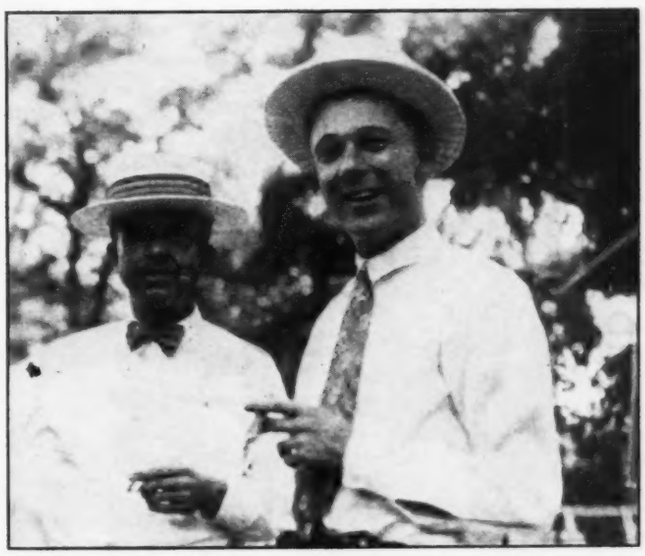
Harry M. Sample, scout in the San Antonio district for the Marland Oil Co. of Texas, who had charge of the entertainment program for the San Antonio convention, was elected president for the incoming term; W. N. O'Roark, scout for the Standard Oil Co. of Louisiana, at Shreveport, was named first vice president; N. E. Tanner, scout at San Angelo for the Humble Oil & Refining Co., second vice president; C. W. Wise, scout for the Texas Pipe line Co., at Fort Worth, secretary-treasurer; and J. H. (Jimmy) Chisholm of the land and scouting departments of the Pure Oil Co., at Mexia, chairman of the executive committee.

The San Antonio convention was presided over by Paul R. Martin, scout at Wichita Falls for the Pure Oil Co., who acted in the absence of Ben M. Bell of the Pandem Oil Co., retiring president, who could not be present. Mr. Wise was in the secretary's chair in the absence of Sam M. Semple of the Prairie Oil & Gas Co., whose recent transfer to



—N. P. N. Staff Photo

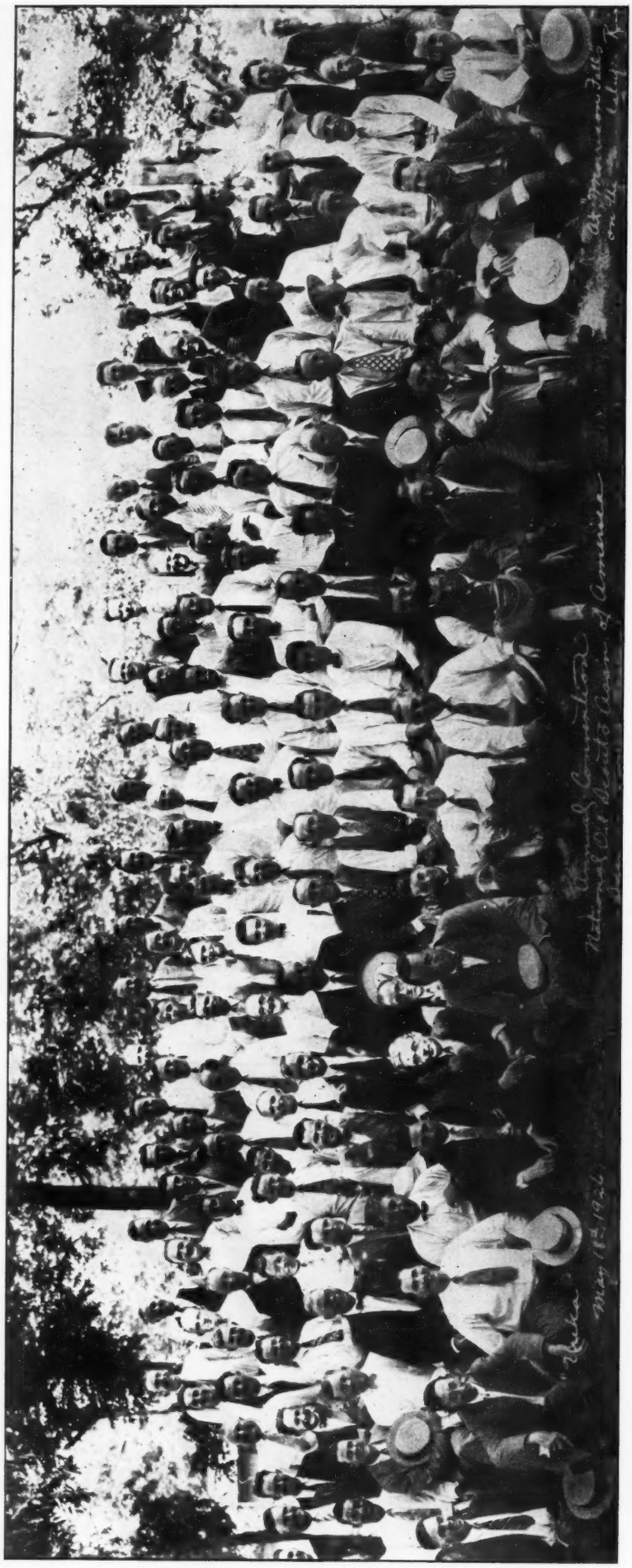
Grady Kirby, geologist, Gulf Production Co., San Antonio; and Charles Wiggins, of Wiggins Supply Co., San Antonio.



—N. P. N. Staff Photo

S. A. Thompson, geologist of Vacuum Oil Co., now stationed at Laredo; and N. E. Tanner, scout for Humble Oil & Refining Co., at San Angelo.

A Group Picture of Oil Scouts Who Met in San Antonio on May 18



the Amarillo district made it impossible for him to attend the San Antonio meeting.

Aside from the furthering of their acquaintanceship through the mingling of scouts from the various territories, a growing recognition of the organization's serious phases was apparent throughout the two days of the convention. The business sessions were marked by a number of brief talks, in which many of the scouts joined. These talks had to do with their work in the various districts and something of the producing conditions that had to be dealt with in accomplishing their tasks.

Out of these discussions grew plans for the preparation of papers to be given at the next annual convention, these papers to go more thoroughly into the informative phases of the work and provide better understanding of conditions from one district to another.

An invited guest of the association, who sat with the presiding officers at the scouts' convention, was William B. Sutton, now managing southwestern producing operations of the Vacuum Oil Co., but at the time the scouts originally organized, the Texas head of the land department for the Prairie Oil & Gas Co., at Eastland.

Business sessions were also marked by the extension of an honorary membership to "Uncle Dave" Shelby, for years chief scout of the Prairie Oil & Gas Co., at Tulsa, but more recently of San Antonio.

John Prevo, veteran oil scout now representing the Mid-Kansas Oil & Gas Co., in the San Antonio territory, was master of ceremonies at the Monday evening banquet. Claud L. Witherspoon of San Antonio, a Texas operator since the discovery of oil at Corsicana in the late '90s, spoke reminiscently; Tom H. Ethridge, Jr., welcomed the visitors on behalf of the city of San Antonio; W. N. O'Roark of the Standard Oil Co. of Louisiana invited the scouts to hold their 1927 convention at Shreveport; Mayor W. D. Holcomb of San Angelo asked for the 1927 convention to be held in the west Texas metropolis; Paul Wagner of the Houston office of National Petroleum News, spoke of the oil scout as an industrial pioneer; Mr. Sutton of the Vacuum made constructive remarks at that time also, as did J. A. Neath of the Humble Oil & Refining Co., Houston. J. Kent Ridley of the Gulf Publishing Co., Houston, spoke of his pleasure at being present.

The talks were finished quickly and the rest of the program devoted to exhibition dancing by a paid entertainer and to singing by the new vice president, Mr. Tanner of San Angelo.

Tuesday afternoon, the scouts were entertained at a barbecue given by H. H. Weinert, banker, of Seguin, who is recognized in the San Antonio territory as the oil man's friend. The visitors made the 40 mile trip to Mr. Weinert's barbecue and returned to San Antonio at night, highly praising his hospitality. The convention was finished with a dance at the country club Tuesday night.

Eastern Refiners Visit Tiona Refining Co.

WARREN, Pa.—Sixty members of the National Petroleum Association were guests of the Tiona Refining Co. at Clarendon, Pa., on May 14. It was one of the regular plant inspections that have become a feature of the association's program under the leadership of the department of manufacture which is headed by B. B. Stroud of the McKean County Refining Co.

A meeting of the 12 trustees of the association was held at the Conewango Club, Warren, on May 13.

The visitors spent the forenoon in a complete inspection of the Tiona plant and luncheon was served by the company at noon in a big tent erected for the occasion in the plant yard.

Following the luncheon an informal meeting was held in the tent, presided over by B. B. Stroud. Fayette B. Dow, Washington counsel of the association and manager of the program of plant betterment that was decided upon at the spring meeting at Cambridge Springs a month ago, spoke.

G. G. Brockway extended an invitation to those present to play golf over the Conewango Country Club course and many accepted.

The final event on the program was a demonstration of a fire extinguisher especially designed for use in refineries. A tank of oil was set ablaze and the extinguisher put it out quickly.

Among those present were:

A. F. Mullhaupt, Karl Nichols, H. H. Greene, F. N. Johnson, E. C. Echelberger, R. M. Knabb, C. S. Knabb, B. B. Stroud, F. G. Bischoffberger, C. R. Kerr, Walter Murphy, H. E. Millard, K. C. Northrup, H. E. Shoemaker, J. W. Fawcett, D. J. Harvey, H. E. Call, F. W. Miller, O. P. Keeney, G. B. Hunter and M. J. Glynn.

Charles Gardner, Otto Walchli, P. F. Conerty, L. P. Litzinger, B. H. Taylor, E. M. Hyatt, H. M. Miller, George P. Brockway, D. W. Crossett, H. A. Logan, H. W. Schmidt, B. S. Knabenshue, McLean Houston, Roy Williamson, C. E. Kinder, L. C. Jamieson, G. G. Brockway, George F. Henry, K. M. Lyons, M. V. Geer, George Detlor, William F. Crossett, Paul T. Green, James Herbert, Harry R. Lewis, Harry Cogswell, Herbert G. Eaton, L. B. Meeley, William Colvin, J. T. Hilliard, James Lewis, and Albert G. Roach.

E. M. Lyons, manager, vice president and manager of the Tiona Refining Co., is trustee in charge of the department of trade and commerce of the National Petroleum Association.

Acquires Radio Oil Stations

MILWAUKEE, May 21.—Bartles-Maguire Oil Co., Milwaukee, acquired 10 additional service stations, May 10 by taking over the Radio Oil Co., Milwaukee. The Radio Oil Co. was controlled by the Quality Oil Co., Milwaukee, distributor of Marland oils exclusively.

Shipments from Los Angeles Week Ended May 22

(Barrels of 42 Gallons)

	Crude	Gasoline	Gas Oil	Fuel Oil	Tops	Kerosene	All Products
Atlantic Domestic	154,378	.....	79,809	.....	.....	.....	234,187
Atlantic Foreign	109,184	71,846	.....	.....	.....	.....	181,030
Pacific Domestic	816,160	105,249	.....	343,186	.....	.....	1,264,595
Pacific Foreign	149,510	.....	.....	213,465	.....	63,000	425,975
Total Shipments Week Ended May 22							2,105,787
Total Shipments Week Ended May 15							2,429,346
Total Shipments Week Ended May 8							2,220,324

Ships Clearing for Atlantic Ports

Chester Sun to Baltimore with 79,809 barrels gas oil for Sun Oil Co.

Robert E. Hopkins to Bayonne with 75,000 barrels of crude for Tide Water Oil Co.

Swift Light to Fall River with 79,378 barrels of crude for Swiftsure Oil & Transportation Co.

Producer in Wilcox Sand In North Braman

TULSA, May 24.—In the North Braman field, Kay County, Okla., the Comar Oil Co. has drilled in the first deep test and has a well flowing 81 barrels an hour in the Wilcox sand. This is its No. 7, Priboth, in the southwest corner, northwest, of 21-29-1 west.

This well got top of the sand at 3399 feet, and also its first oil at this depth. The big pay was found at 3422 feet and the well has been drilled two feet past this point.

The well is located on the west edge of production from shallower sands, in which approximately 50 wells have been completed, with average total production of 1635 barrels last week.

Comar Oil Co., half Marland and half Roxana, owns most of the production and has a large block of acreage in the vicinity, although The Texas Co. has a lease offsetting the new well.

Advertising And Research Planned By A. N. G. M.

Staff Special

TULSA, May 24—A program of research into the qualities and uses of natural gasoline and a campaign of publicity to the trade will be proposed to the membership of the Association of Natural Gasoline Manufacturers at a meeting called for June 1. The meeting will be held in the assembly room of the Mid-Continent Oil & Gas Association in the Cosden building beginning at 10 o'clock.

At a meeting of the board of directors of the association held this week it was voted to recommend to the membership that the research and publicity work be undertaken as a part of the work of the organization. The board will recommend that Doctors E. H. Leslie and G. G. Brown of the University of Michigan be retained as research engineers and that two fellowships in natural gasoline at the University be established at the expense of the industry.

Since it has been shown by preliminary investigation by the two Michigan men that natural gasoline has a value as an anti-knock agency when blended with refinery gasoline it is the idea of leading manufacturers of natural gasoline that this fact should be advertised widely to the consumers of the product. Other results of the investigators would be announced in advertisements under the proposed plan.

Final approval of the proposals will rest with the membership of the organization at the meeting on June 1.

A. V. Bourque, secretary of the association since its organization, was reelected by the directors at their annual meeting. It was voted to have the association join the American Society for Testing Materials.

Crude Price Changes

May 18.—In the 25 cent advance on North Louisiana and Arkansas crudes by Standard Oil Co. of Louisiana, as announced in the May 19 issue of National Petroleum News, page 46, Cotton Valley was advanced only 10 cents the same as Smackover.

All important purchasers met this advance immediately. The Texas Co., which buys in Caddo, Bull Bayou, De Soto, Crichton and Smackover fields, met the advance on all grades excepting Caddo, below 32 gravity, which remains $1.85.

Louisiana Oil Refining Corp. and Atlantic Oil Producing Co. advanced both grades of Stephens, Ark., crude 15 cents, to $1.65 for 26 and above gravity, and $1.45 for below 26 gravity.

May 19.—Joseph Seep Purchasing Agency advanced Corning, O., crude in Buckeye Pipe Lines, 10 cents, to $2.45.

May 19.—Joseph Seep Purchasing Agency advanced Ragland, Ky., crude in Cumberland Pipe Line lines, 10 cents, to $1.25 per barrel.

May 22.—Joseph Seep Purchasing Agency advanced Corning, O., crude in Buckeye Pipe Lines, 10 cents, to $2.55. This advance is the fourth change on Corning crude this year, the first one being a 30 cents advance on Feb. 3, to $2.25, the second a 10 cents advance on Feb. 27, to $2.35, and the other two as reported above.

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Barrel Faucet

Type 60
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Faucet

Type 24
Tank Truck
Faucet

Anti-Freeze
Valve

Type 12
Gooseneck
Open Hose Nozzle

Type 36
Quick Hose Coupling

Type 25
Loading Valve

Type 50
Wet Hose
Auto-Filling
Faucet

Type 26
Loading Valve

A. W. WHEATON BRASS WORKS
NEWARK, N. J.

Wheaton

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended May 21 (By Telegraph)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Totals Week Ended May 21	%Change Previous Week	Totals Week Ended Apr. 23
Plants Reporting	23		46		41		14		124		124
Daily Cap. (Bbls.)	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Runs	61,163	+ 4.9	111,129	+13.7	64,134	— 6.0	47,139	+ 0.8	283,565	+ 4.6	262,692
Da. Av. Other Oils	4,083	—46.4	4,070	+555.4	4,747	+14.1	41	.....	12,941	+ 6.0	6,827
GASOLINE—Gallons											
Stocks May 14	11,833,234		39,389,684		18,216,972		6,039,455		75,479,345		89,130,468
Prod. 5-14 to 5-21	8,471,563	— 7.6	15,555,747	+19.5	6,583,853	— 8.6	2,920,503	— 5.7	33,531,666	+ 3.2	31,603,604
Ship. 5-14 to 5-21	8,641,304	— 3.3	15,970,259	— 3.9	6,797,892	— 2.8	3,217,490	—12.2	34,626,945	— 4.4	31,545,671
Stocks May 21	11,663,493	— 1.4	38,975,172	— 1.1	18,002,933	— 1.2	5,742,468	— 4.9	74,384,066	— 1.5	89,188,401
Ratio Sales to Prod	102.0%		102.7%		103.3%		110.2%		103.3%		99.8%
KEROSENE—Gallons											
Stocks May 14	1,384,154		2,899,572		1,337,530		345,801		5,967,057		6,397,969
Prod. 5-14 to 5-21	1,716,964	+ 6.0	3,796,125	+28.3	1,287,433	—16.9	539,751	+10.7	7,340,273	+10.9	5,536,654
Ship. 5-14 to 5-21	1,617,118	+ 5.8	2,694,505	— 5.0	1,269,408	—13.7	386,812	—22.2	5,967,843	— 5.7	6,290,709
Stocks May 21	1,484,000	+ 7.2	4,001,192	+38.0	1,355,555	+ 1.3	498,740	+44.2	7,339,487	+23.0	5,643,914
Ratio Sales to Prod	94.2%		71.0%		98.6%		71.7%		81.3%		113.6%
STOVE DISTILLATE—Gallons											
Stocks May 14	969,411		1,950,102		235,561		28,896		3,183,970		2,097,576
Prod. 5-14 to 5-21	413,727	—12.5	312,828	+46.2	256,884	— 8.0	11,466	+102.2	994,905	+ 2.4	1,442,969
Ship. 5-14 to 5-21	196,840	—24.9	129,750	—25.4	329,058	+40.2	0	—100.0	655,648	— 5.6	1,323,779
Stocks May 21	1,186,298	+22.4	2,133,180	+ 9.4	163,387	—30.6	40,362	+ 39.7	3,523,227	+10.7	2,216,766
Ratio Sales to Prod	47.8%		41.5%		128.2%		0		65.9%		91.7%
GAS OIL—Gallons											
Stocks May 14	8,178,771		35,892,186		4,957,878		6,014,630		55,043,465		54,229,155
Prod. 5-14 to 5-21	1,712,977	+ 9.3	1,735,170	+17.9	302,159	.....	1,878,168	— 8.2	5,628,474	+26.0	5,322,299
Ship. 5-14 to 5-21	1,264,382	+ 9.7	1,178,407	—15.0	1,084,544	— 7.9	2,927,343	+143.1	6,454,676	+31.2	4,463,875
Stocks May 21	8,627,366	+ 5.5	36,448,949	+ 1.6	4,175,493	—15.8	4,965,455	—17.4	54,217,263	— 1.5	55,087,579
Ratio Sales to Prod	73.8%		67.19%		358.9%		155.9%		114.7%		83.9%
FUEL OIL—Gallons											
Stocks May 14	6,592,092		37,228,120		19,436,486		5,626,755		68,883,453		63,228,889
Prod. 5-14 to 5-21	5,582,896	+ 7.1	9,642,132	+17.4	8,928,126	— 3 6	7,926,491	+ 5.1	32,079,645	+ 6.1	28,949,692
Ship. 5-14 to 5-21	3,508,159	—29.1	8,044,115	— 9.3	9,091,292	— 6.0	6,982,059	— 4.8	27,625,625	—10.4	28,292,309
Stocks May 21	8,666,829	+31.5	38,826,137	+ 3.2	19,273,320	— 0.8	6,571,187	+16.8	73,337,473	+ 6.5	63,878,272
Ratio Sales to Prod	62.8%		83.4%		101.8%		88.1%		86.1%		97.7%

Kerosene Stocks Turn Upward at 124 Refineries

By Telegraph

TULSA, May 25

KEROSENE stocks at 124 Mid-continent refineries reporting weekly to this publication were increased during the week ended May 21 by 1,400,000 gallons, the first time this year an increase of as much as a million gallons in one week has been recorded. Kerosene production was greater by 725,000 gallons than in the preceding week while shipments declined 360,000 gallons.

Because kerosene stocks are so low the increase last week caused the total production for the past four weeks to show an increase of more than 1,000,000 gallons over shipments, whereas stock and shipment figures tabulated each week for the preceding four-week period, heretofore this year have been the reverse.

Drafts on gasoline stocks continued but not so heavily as in the four preceding weeks. Stocks were reduced 1,000,000 gallons, bringing the total stocks on hand May 21 to 74,384,006 gallons.

Gasoline production was increased to 33,531,666 gallons or 1,045,000 gallons over the preceding week and shipments fell off 1,500,000 gallons to a total of 34,626,945 gallons for the week.

Gas oil shipments exceeded production by approximately 800,000 gallons causing stocks to increase to 54,217,263 gallons. Texas, Louisiana and Arkansas refiners accounted for the heavy shipments, Kansas moving only 73.8 per cent of production and Oklahoma 67.9 per cent. Stove distillate stocks increased slightly. Fuel oil stocks were increased 4,000,000 gallons.

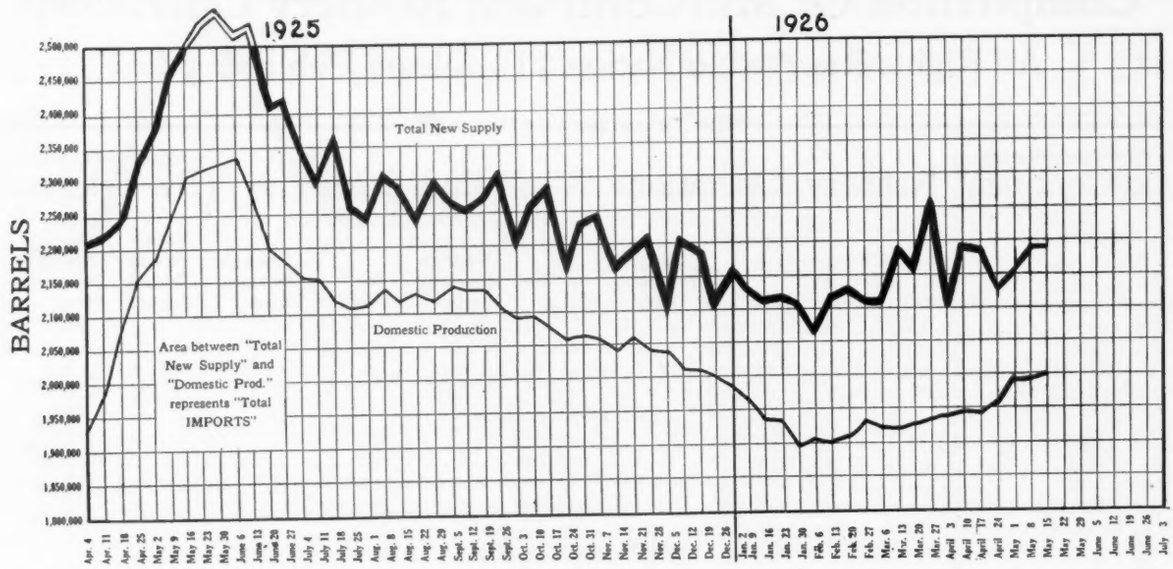
Crude charges to stills were increased 12,500 barrels daily average but little change was made in rerun charges.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended May 21. Change in stocks figured from April 23.

	Gallons
Gasoline	
Production	132,473,616
Shipments	147,277,951
Net change in stocks	—14,804,335
Ratio sales to production	111.2%
Kerosene	
Production	25,951,435
Shipments	24,255,862
Net change in stocks	+1,695,573
Ratio sales to production	93.5%
Stove Distillate	
Production	4,915,156
Shipments	3,608,695
Net change in stocks	+1,306,461
Ratio sales to production	73.4%
Gas Oil	
Production	22,455,268
Shipments	23,325,584
Net change in stocks	—870,316
Ratio sales to production	103.9%
Fuel Oil	
Production	123,891,724
Shipments	114,432,523
Net change in stocks	+9,459,201
Ratio sales to production	92.4%

Daily Average Crude Oil Production and Imports



Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute

OKLAHOMA

	May 22	May 15
North Braman	1,700	1,990
South Braman	13,400	13,700
Blackwell	4,200	4,250
Hubbard	1,900	1,900
Thomas	4,050	4,150
Tonkawa	36,950	37,700
Garber	39,650	43,650
Burbank	41,300	41,100
Osage, outside Burbank	33,450	33,450
Watchorn	2,800	2,600
Cushing	21,750	21,800
Yale Jennings	16,900	16,700
Davenport	11,950	12,900
Bristow-Slick	29,800	29,750
North Okmulgee	17,800	17,800
Lyons-Deaner	4,250	4,300
Stroud	2,200	2,350
Cromwell	18,000	18,300
Papoose	12,200	12,000
Wewoka	31,000	32,950
Duncan district	7,150	7,150
Graham	9,350	9,400
Fox	4,450	4,450
Healdton	14,450	14,450
Hewitt	12,150	12200
Others	67,850	66,670
Total Oklahoma	460,650	467,600
Decrease		6,950

KANSAS

Florence-Covert	1,750	1,750
Peabody-Elbing	4,350	4,400
Eldorado-Towanda	13,950	14,000
Augusta-Fox-Bush	4,850	4,850
Rainbow Bend	4,500	4,600
Russell	5,550	5,600
Greenwood County	44,950	43,000
Others	26,600	26,600
Total Kansas	106,500	104,800
Increase		1,700

NORTH LOUISIANA

Homer	7,750	5,750
Haynesville	10,150	10,200
Caddo, light	9,300	9,100
Caddo, heavy	2,800	2,250
De Soto, Red River	4,050	4,050
Elm Grove	650	600
Bellevue	2,400	2,500
Cotton Valley	8,900	8,600
Urania	14,200	12,900
Total North Louisiana	60,200	55,950
Increase		4,250

ARKANSAS

El Dorado	7,500	7,500
Smackover, light	17,250	17,450
Smackover, heavy	135,350	135,450
Stephens	1,900	1,900
Nevada	3,100	3,200
Lisbon	11,750	11,550
Total Arkansas	176,850	177,050
Decrease		200

NORTH TEXAS

	May 22	May 15
Burkburnett	11,850	12,300
Electra	16,350	16,050
Iowa Park and K-M-A	4,350	4,250
Wilbarger	12,800	12,200
Panhandle	21,400	21,600
Petrolia	500	450
Others	2,050	2,550
Archer County	32,800	31,100
Total North Texas	102,100	100,500
Increase		1,600

EAST CENTRAL TEXAS

Mexia	13,050	13,100
Currie	1,000	1,050
Richland	1,700	1,700
Corsicana-Powell	29,850	30,300
Wortham	9,550	9,550
Total E. Cen. Texas	55,150	55,700
Decrease		550

WEST CENTRAL TEXAS

Stephens County	13,050	13,050
Eastland County	5,700	5,700
Desdemona	1,850	1,850
Young County	6,950	7,000
Palo Pinto County	450	450
Callahan County	3,350	3,600
Shackelford County	5,350	4,800
Reagan County	32,300	32,600
Others	10,500	10,400
Total W. Cen. Texas	79,500	79,450
Increase		50

SOUTHWEST TEXAS

Luling	21,250	21,650
Mirando	7,100	6,900
Somerset	2,000	5,600
Lytton Springs	5,350	6,100
Piedras Pintas	200	200
Others	600	600
Total S'west Texas	36,500	41,050
Decrease		4,550

GULF COAST

Goose Creek	8,550	8,550
Hull	21,200	20,700
Saratoga	1,200	1,200
Blue Ridge	950	1,250
Damon Mound	850	850
Batson	1,200	1,300
West Columbia	9,050	9,050
Humble	3,900	3,800
Pierce Junction	1,200	1,250
Sour Lake	4,000	4,050
Spindletop	6,750	5,800
Orange County	10,600	10,850
Edgerly	1,000	1,050
Evangeline	900	950
Vinton	6,400	6,500
Lockport	4,400	4,950
South Liberty	4,750	4,900
Big Creek	1,050	1,050
Boling	3,150	4,750
Others	2,000	2,250
Total Gulf Coast	93,100	95,050
Decrease		1,950

ROCKY MOUNTAIN

Wyoming

	May 22	May 15
Salt Creek	51,600	51,700
Grass Creek	2,950	3,050
Elk Basin	600	650
Big Muddy	3,500	3,550
Lost Soldier	4,950	5,050
Rock River	2,850	2,850
Teapot Dome	1,200	1,150
Others	4,800	4,550
Total Wyoming	72,450	72,550
Decrease		100

Montana

Cat Creek	2,900	2,950
Sunburst	25,000	25,000
Total Montana	27,900	27,950
Decrease		50

Colorado

Moffat (Craig)	3,650	3,650
Fort Collins	2,600	2,550
Florence	350	350
Others	500	500
Total Colorado	7,100	7,050
Increase		50

New Mexico

Artesia	3,000	3,050
Hogback	450	450
Rattlesnake	350	300
Total New Mexico	3,800	3,800
Total Rocky Mountain	111,250	111,350
Decrease		100

CALIFORNIA

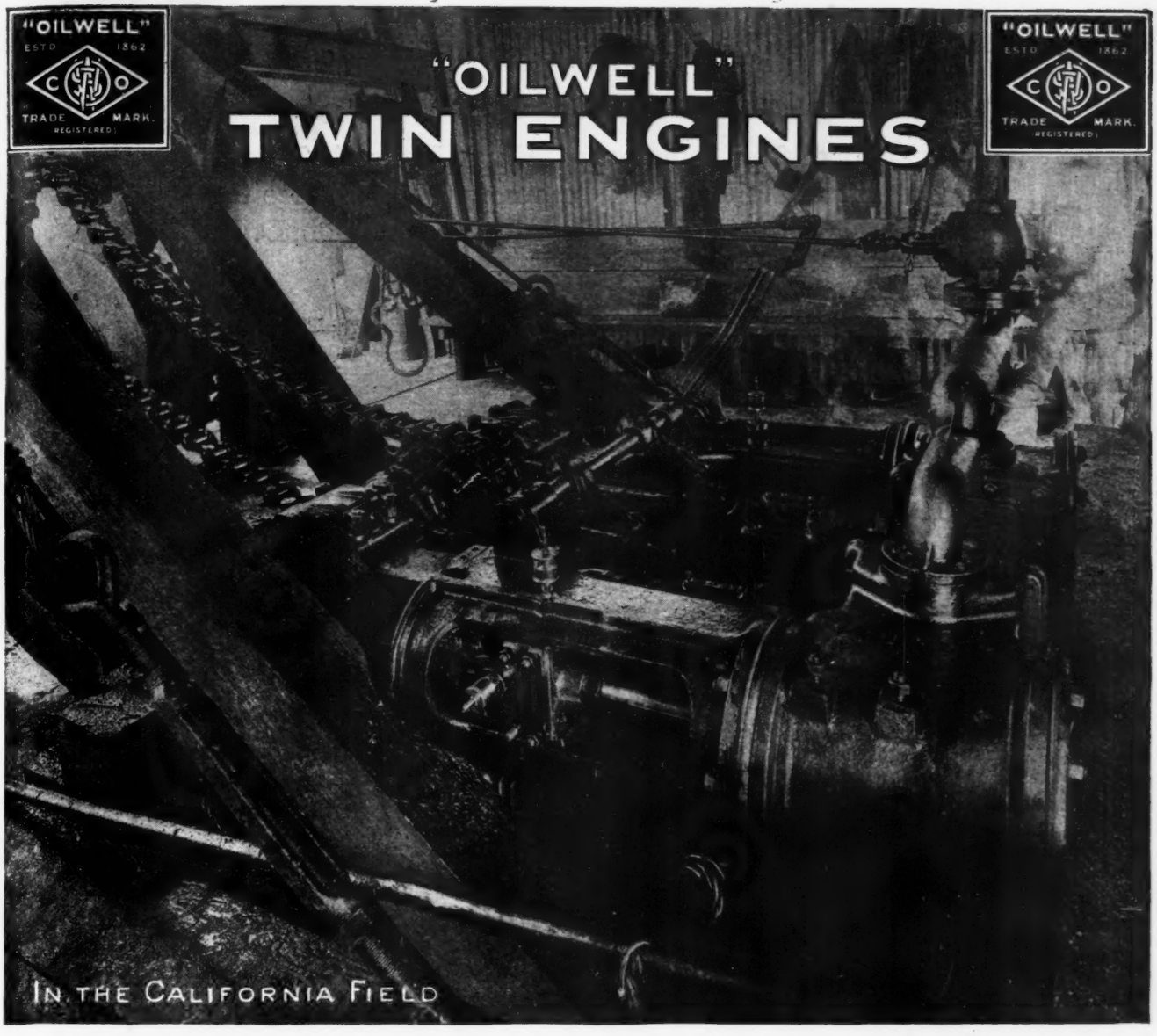
Santa Fe Springs	49,000	49,500
Long Beach	106,000	106,500
Huntington Beach	44,500	44,000
Torrance	28,500	28,000
Dominguez	21,000	20,500
Rosecrans	16,000	17,000
Inglewood	49,500	51,500
Midway-Sunset	94,500	95,000
Ventura	32,500	.....
Others	157,500	192,500
Total California	599,000	604,500
Decrease		5,500

EASTERN

(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	106,500	106,000
Increase		500

Production Summary

Production east of Rockies	1,388,300	1,394,500
Decrease		6,200
Total production in U. S.	1,987,300	1,999,000
Decrease		11,700



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For Rotary Drilling, the Twin Engine has several advantages over the single cylinder type in that the Twin Engine cannot stop on center, and the absence of flywheel momentum facilitates quick starting, stopping, or reversing. It is also more sensitive, which is a great asset when making up pipe and, with it, a slower, positive motion can be obtained.

Bed-plate, cross-head guides, and bearings for crank shaft are all cast in one piece, which reduces the number of assembled parts and insures permanent alignment of bed and bed plate.

Each engine is given a running test before leaving the factory, and when shipped, is ready to perform the hard service for which it is designed. Can be furnished either with or without force feed lubrication.

For further information, send for Bulletin No. 49, or inquire at any of our 100 Branches.

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Quotation from opinion of Mr. Walter C. Teagle, President, Standard Oil Company (N. J.), before the Federal Oil Conservation Board at Washington, D. C., February 10th and 11th, 1926:

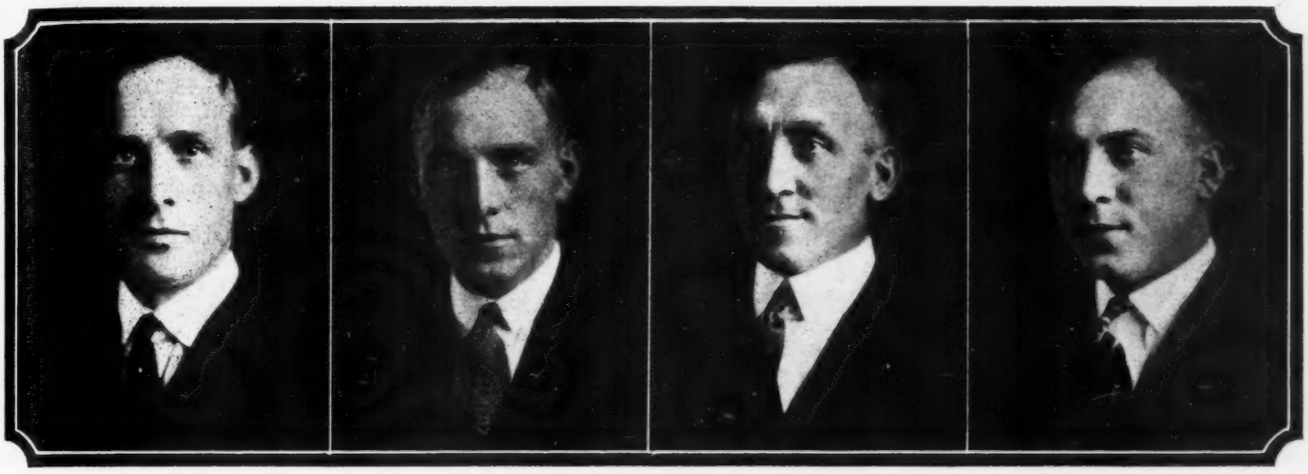
(From the official record as printed by the Government Printing Office, Washington)

"Refinery operations over the past three years are illustrative of the economic tendency I have described.

"Gasoline was produced more cheaply from cracking than from the initial distillation of the crude, and in this way by utilizing only distillates 144,000,000 barrels of cracked gasoline were produced.

"To have produced this 144,000,000 barrels of cracked gasoline from the initial distillation of crude, on the basis of the average yield reported by the Bureau of Mines, would have necessitated the running of 585,000,000 barrels of crude.

"Thus the cracking process dur-



Left to right: E. F. Schlee, president; E. H. Schlee, vice-president; A.G. Schlee secretary and D. S. Schlee, treasurer, Wayco Oil Corp., Detroit.

$2,000,000 Annual Business Grows from $8,000 Investment in Four Years

DETROIT, May 22

AN $8,000 investment made less than five years ago by four brothers was the seed from which was developed last year a gross business of more than $2,000,000. The business this year from the $8,000 nucleus promises to exceed the 1925 gross earnings by a good sized margin.

The investment was made by the four Schlee brothers of Detroit to establish a filling station, the first of a chain that now numbers 65 in Detroit and nearby territory. Their enterprise is now the Wayco Oil Corp., the name being taken from Wayne county in which Detroit is situated.

The Wayco Oil Corp. is one of the leading gasoline and motor oil distributors in the capital of the automotive industry. It is said its gallonage is rivalling that of its largest competitor, an assertion which obviously must stand without supporting evidence.

All of the Schlee brothers are actively engaged in the business. All are still young men. E. F. is president; E. H., vice-president; A. G., secretary, and D. S., treasurer.

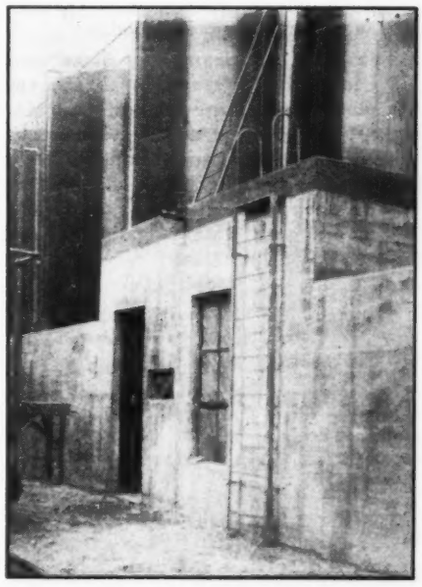
First Station is Success

BACK in 1921 E. F. and E. H. were jobbing gasoline and oils. They decided to enter the retail end and joined with A. G. and D. S. in building a station at Cass and Temple Aves. That venture was a success and since then they have been expanding steadily, almost spectacularly.

Their first bulk station was a small plant in the northwestern part of the city. Last year they acquired a factory building formerly occupied by a motor truck manufacturer only a little more than two miles from the heart of the city which they use for a garage, warehouse, and repair shop. They installed some lubricating oil tanks, barreling and canning facilities and in the yard they put a battery of tanks for gasoline, a little kerosene, and lubricating oil.

Because of the location of the plant they had to overcome some opposition before they were permitted to install gasoline storage but every possible precaution against fire was taken to satisfy occupants of nearby property as well as city officials. The plant is a model of good housekeeping and an example of how bulk storage may be installed in congested districts.

All gasoline tanks—each of 15,000 gallons' capacity—are installed upright and the battery of 15 is surrounded by a concrete wall that extends from two or three feet below the level of the yard to eight feet above. The capacity of this concrete reservoir is slightly in excess of the combined capacities of the 15 steel tanks, so that if by some quirk of fate all tanks should burst none of the gasoline would overflow to endanger nearby buildings.



Sunken pump house and switch box where fire started when tank atop house overflowed and gasoline splashed over the coping around the pump house roof. The blaze was extinguished by Wayco employes with a hand foam engine before city fire department arrived.

The yard also contains eight 10,000-gallon vertical tanks for motor oils and the small quantity of kerosene carried.

The company has spur track and facilities for the unloading of 10 tank cars at one time along one side of the concrete reservoir. Along part of the other side six 1,000-gallon tank trucks may be loaded simultaneously in 12 minutes. Three-inch lines are used for loading tank trucks and all outlets are equipped with automatic shutoff valves. Outlet pipes are grounded and before loading of any truck is started, a grounded copper cable is attached to a lug on the truck tank with a battery clip. Trucks are loaded by gravity from eight of the storage tanks which are replenished by pumping from other tanks as the level of gasoline in them is lowered.

Pump House Divides Reservoir

THE pump house is sunk under one of the storage tanks near the center of the battery. The house, which is of thick concrete, divides the concrete reservoir into two compartments. The pumps are of the rotary type and electrically driven. The switches are sunk in the concrete wall outside the pump house, a safe distance from any inflammable vapors that may gravitate into the house.

However, one fire did originate at the switch box but that was when the

Battery of vertical gasoline tanks surrounded with concrete dike at Wayco Oil Corp's new bulk plant at Detroit. Tank trucks are loaded by gravity from the tanks in the foreground. The pipe along the tops of the tanks is the guard on the runway and not a sprinkler system.

gauge in a gasoline storage tank stuck when the tank was being filled and too much gasoline was pumped in. The overflow ran down to the roof of the pump house, splashed over a coping around it, and ran on down to the switchbox where it was ignited by a short circuit. The blaze was extinguished with a hand operated foam engine before the city's fire department arrived. Foam engines are placed in several places around the plant.

Besides the gasoline storage at the new plant, the company is still using its former plant where it has eight 15,000-gallon tanks for gasoline.

Stations Virtually Uniform

ITS service stations are virtually uniform in design and measurements. All of the newer stations are rectangular, of yellow pressed brick with red tile hip roofs. The door in the center is flanked by wide windows which make most of the front of each station glass. There is no canopy and three gasoline pumps are placed on a concrete island about 12 feet from the front of the station.

All equipment is standardized at Wayco stations. Bowser equipment is used exclusively for gasoline service and Bowser and Bennett lubricating equipment for motor oils. Eco air standards are now being installed.

The Wayco company uses 51 automobiles in serving its trade. This number embraces a large fleet of tank and stake trucks, repair and service trucks, salesmen's, supervisors' and officers' cars. The company does all its own repair work and all trucks and company cars and station equipment are kept freshly painted by a subsidiary organization called the Re-New Paint Co.

Another subsidiary, the Wayco Land Co., buys or leases sites upon which the service stations are built.

THE company keeps a careful check of its transportation costs. One man is engaged in checking trucks and truck routes. He is on the streets a large part of his time, determining over what streets trucks may make the quickest time and perhaps taking one station or dealer from one route and putting it on another. Some trucks make five and six trips a day, delivering about 1,000 gallons a trip. Trucks are equipped with Servus recorders which show the exact time each truck is in motion or making stops. These have reduced a great amount of lost time on the road.

Cost records of the company show that in one fleet of 15 1,000-gallon tank trucks the cost of delivering gasoline in Detroit averages ½ cent per gallon. This figure includes drivers' salaries, operating expense, maintenance and depreciation.

Truck drivers are on salaries. Service station attendants are on salaries and commissions. New business is built up by salesmen so truck drivers have only deliveries to make.

Salesmen meet to discuss present trade and new business prospects every other Monday night. Bi-weekly meetings of service station men are also held. These meetings are addressed by one of the brothers, some member of the sales department, or an outside oil man. Details of the oil industry are explained so that every station attendant is familiar with the commodity he is selling.

Employes Form Club

THE Wayco Sales and Service club was organized last fall to promote a family spirit among the station men and although membership is not obligatory every station man is a member. In winter six teams of station, bulk plant and office men compete in the Wayco Bowling league. At the end of each league season a banquet is given and prizes are awarded to the winning team, and individual high score holders.

All this is done not in a spirit of paternalism but because the Schlee brothers realize that a contented force of employes is an invaluable asset to the business. They know that station men are contact men and the public will judge the company and, in a broad sense, its merchandise by the demeanor of the men who work the pumps.

There is a supervisor over every 10 stations. These supervisors keep check by frequent visits daily on the service, equipment and general appearance of the stations.

Shell gasoline is handled exclusively but Valvoline and Shell motor oils are sold. Every tank car of gasoline, kerosene or motor oil that is received is tested in the company's own laboratory.

EACH service station is equipped with a drain pit and each attendant is taught the proper grade of oil to be used for each make and model of automobile. It is the intention of the company to have each station man able to diagnose quickly the lubrication ills of any automobile that may be driven into any of their stations, and prescribe the correct lubricant.

The Schlee brothers are modest and do not gloat over what they have accomplished in so short a time. They do not prate about serving the motoring public or depend on high pressure methods or price cutting to get gallonage. They set out to establish themselves in business and grow with the opportunities afforded by their market by good business practice. This they seem to have done well.

Water and Compressed Air Drives Work Side by Side in Bradford Field

By Lawrence E. Smith
N. P. N. Staff Writer

FOR a long while O. F. Thompson, manager at Bradford, Pa., of operations for the Associated Producers Co., a Tide Water company subsidiary, has hoped that he would complete a well making as much as 75 barrels a day. Not that the A. P. was in dire need of such a well, for it has always maintained a satisfactory production and could increase it at any time. Mr. Thompson merely longed to see a well something on the order of those he used to complete before the "head" went off the field.

Then, just a little while back, one of the completions looked somewhat better than the usual run. It made 37 barrels the first 24 hours, 28 barrels the following day. It was not pumped the third day, but on the fourth it became a common topic of conversation by putting 82 barrels into the tank. Then it began to pump at the rate of 35 to 40 barrels a day and is still holding up somewhere around that figure. It didn't qualify as a 75-barreler, strictly speaking, but it was quite satisfactory.

It was not just a happen-so well, nor was it, the owners suspect, merely a product of the water drive so intimately associated now with the Bradford field. Rather, it was a product of the two chief forms of rejuvenating old fields—water and air flooding. The well is located about 200 feet from a flood—or where one is supposed to be—and is also near an air intake well which recently began to take compressed air. Thus, it is believed, a bank of oil had been built up by the water and the air has started moving the oil along in the direction of the newly drilled producing well.

This is the new producing technic in the Bradford field—combination of flooding by water and air. The latter force is the one principally relied upon by the operators using both, to effect the increase in recovery with the water drive playing the minor role of protecting the boundaries—holding the oil on the lease, fencing it in.

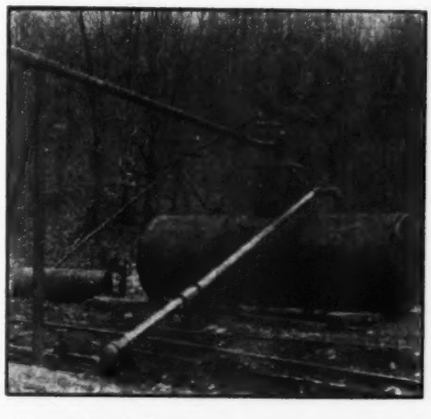
Air Tried Years Ago

SEVERAL years ago air pressure was given a trial in the Bradford field and was then abandoned in favor of flooding because the field was still producing a large quantity of gas from each well and the natural gasoline plants found it unprofitable to operate on the aerated gas. While there are a number of natural gasoline plants still in operation in the field, they are of less importance to a number of operators than is an increase in the recovery of oil and while the latter is attainable by putting on water drive, there is a belief among a number of operators that equivalent results can be obtained by air flooding and at greatly lesser cost.

Steel building on the left houses first compressor unit put in by Petroleum Reclamation Co. in the Bradford field. Other units will be housed in the same building by elongating it to the left. Brick building also houses a compressor, installed by J. C. Looker, former owner of the property.

Two of the large operators in the field have recently started air floods. One is the Associated Producers Co. and the other is the Petroleum Reclamation Co. The latter, a recent arrival in the field, is also practicing water flooding on some of its acreage.

The Associated Producers holds large acreage in the field but it has never pushed the water drive very far. Some flooding has been started as defensive measure when neighbors were flooding but no elaborate and regular plan has been set up as has been in the case of several other operators. Mr. Thompson, who has been for years the manager for the Associated Producers in this district, has never been much impressed with water flooding, or rather, he has been more impressed with the air drive.



Old marine boiler used to trap water out of the compressed air delivered through low-pressure lines to "air head" pumping devices.

Holds Large Acreage

IN the Bingham, Johnson, Stover and Oakes properties, the A. P. holds about 3,000 acres and on these there are 428 wells. Late last year plans were completed for systematically. putting air pressure on this large acreage. The Dunn-Lewis engineering firm was retained to direct the air application.

The first unit installed was a 190 h.p. direct driven Clark Brothers gas engine-compressor, rated at delivery, capacity of about 950,000 cubic feet daily. Two more units of the same capacity are now being installed. On the Ralph property, at Burning Well, one such unit has been in operation since the middle of last November.

On the Bingham property, 13 wells are being used as intake wells and these are pretty widely scattered. Pressures of 80 to 380 pounds were applied, the "hardness" of the sand determining the pressure. Of large benefit in guiding the company and the engineers was the intimate knowledge of the property possessed by Mr. Thompson.

Since the application of air was made so recently, no final conclusions can be drawn from the data at hand, but the A. P. company is well satisfied thus far. On 12 wells there have been increases in production of 200 to 750 per cent. The pressure "worked" quickly, particularly in a peculiar open streak of sand which extends from northeast to south-

One of the Smith-Dunn patent air pumps for flowing a well. Even the little wells will produce in that way. Line leading to the right is the oil line to tank. Line coming in from left is the air line and the side vent is used when emptying well of air after it has made its production.

west across the A. P. property, some 1,200 feet wide and about eight miles long, counting its extent on properties other than the A. P. This is probably a depositional feature and along it the company has obtained its quickest and largest gains in production.

The average absorption of air by the sand at a pressure of 375 pounds has been about 35,000 cubic feet daily while some wells taking air at pressures of 100 pounds are using 120,000 to 130,000 feet per day.

Cleaning Out with Air

IN addition to the use of air on the sand, the A. P. has been utilizing its high line pressure to clean out wells, a practice which started in southeastern Ohio and within the past two years has gained wide use in the Mid-Continent. Pressures of 380 to 400 pounds are used on the A. P. properties and the saving over cleaning out with tools is figured at about 75 per cent.

Plans are now in the making for one of the most interesting experiments ever conducted in the field. There are about 120 acres on A. P. leases that are "watered out." It is now contemplated to un-water this acreage and try an air drive after the water has been sufficiently reduced, to see whether there is oil recoverable at a profit. It is frankly an experiment, the company having no preconceived ideas as to what it will find.

The application of air to the sand by the Petroleum Reclamation Co. is also recent, first air having been put in January 13. This company came into the field in 1924 and acquired about 450 acres. On this the water drive method is being used, seven floods of the straight line type are in progress.

It is on the most recently acquired property, the J. C. Looker tracts, that the air drive is being employed. On what is known as the West Looker property, consisting of about 70 acres, of which 55 acres are believed to be unaffected by water, air pressure in conjunction with water drive is being applied.

The company installed a Miller engine-compressor, 225 h.p. capable of delivering about a million cubic feet of air at 400 pounds pressure daily. Additional units will be installed as required, for the Looker property is a large one—about 1,500 acres all told—and much greater capacity will be required if any considerable part of the property is air flooded.

Use Water and Air

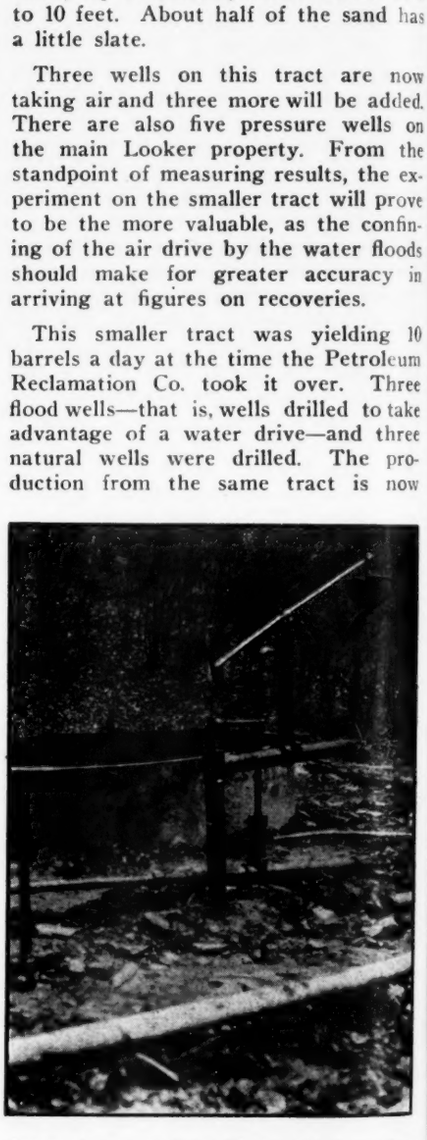
ON the West Looker property floods were in progress on the southeast, northwest and south. Some of the flood wells had been taking water for several years. A gap was filled in on the east and another is being closed on the southwest by drilling water flood intakes. The 55 acres will then be hemmed in by water and the pressure applied to the sand will be confined to the property.

There is established on the sand immediately outward from an intake water well a hydrostatic head of considerable proportion—some believe as high as 700 to 800 pounds. Granting that this would be considerably less with the gaps closed between intake wells when the water will have traveled to the next flood, the hydrostatic head probably will remain high enough that air pressure of 350 to 400 pounds would not disturb it. That, at any rate, is the hope of the operators who are working with the two media.

Sand on this property is 50 to 60 feet thick, top to bottom, with a break of 6 to 10 feet. About half of the sand has a little slate.

Three wells on this tract are now taking air and three more will be added. There are also five pressure wells on the main Looker property. From the standpoint of measuring results, the experiment on the smaller tract will prove to be the more valuable, as the confining of the air drive by the water floods should make for greater accuracy in arriving at figures on recoveries.

This smaller tract was yielding 10 barrels a day at the time the Petroleum Reclamation Co. took it over. Three flood wells—that is, wells drilled to take advantage of a water drive—and three natural wells were drilled. The production from the same tract is now



Automatic pump, Dunn-Watts patent, used to lift water by air pressure. In this installation, a 2-barrel tank is buried directly under the pipe which runs into the ground. This tank fills with water from the tank on surface, which in turn is filled by gravity flow from a nearby spring. A rod, corresponding to the polish rod of a pump, runs to the buried tank and a float, consisting of heavy oak block —heavier than the counterweight shown—rides up and down on the water. It works this way: As the barrel fills with water, float rises until the horizontal rod comes in contact with a "trigger" at the pipe on which it is pivoted. This cuts off inflow of water and turns on air pressure. Contents of tank are flowed to place desired, such as a storage tank or reservoir and as the water level falls, float sinks until the rod makes contact with another release. This cuts off air and turns on water and the performance is repeated, over and over, without attention.

about 80 barrels per day. Some of the increase comes from the air drive, some from the water and some from more intensive operating than the lease had been getting. Mr. Looker, the former owner, simply had too much to do in managing this large acreage at his advanced age—he is one of the real veterans of the district.

Like the Associated Producers, the Petroleum Reclamation noted quick results from the air drive and its best results came from wells that were already affected by water drive. A four-barrel well increased to 16 barrels, to cite the best one on the lease. Good increases were noted in at least 10 wells around two intakes. Again like the Associated Producers, the company noted that some wells nearest the intakes were unaffected by the air drive. This is a fairly common manifestation where air is used.

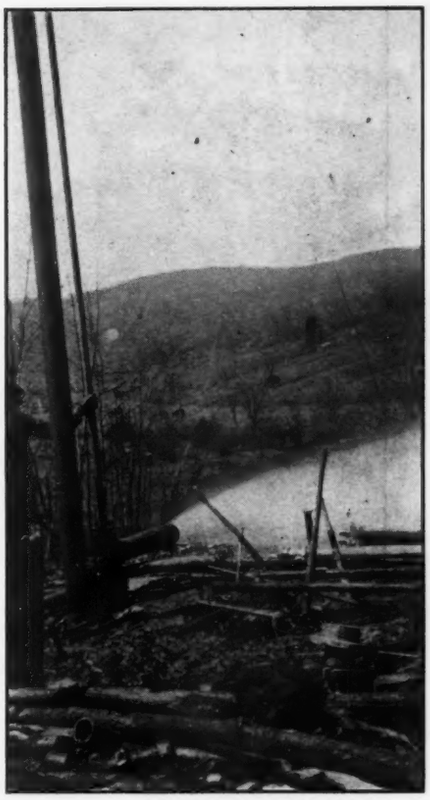
Flowing the Production

BOTH the Associated Producers and the Petroleum Reclamation companies are trying out the Smith-Dunn-Lewis air lift, developed in southeastern Ohio. Air lifts have been used in various forms in other fields for several years but chiefly on wells which yielded a large amount of fluid. The type under discussion here is used to flow very small wells.

It was described for the first time in National Petroleum News issue of Feb. 20, 1924, by James O. Lewis, one of the inventors. His description of the form chiefly used, and which applies to the type in use in the Bradford field, was in part as follows:

"At the top of the well is placed a packed casinghead and through the casinghead a string of tubing extends to the bottom of the well or to the pumping level. Several joints from the bottom is a coupling into which is screwed a brass button and through this brass button is drilled a ⅛ inch to $\frac{3}{32}$ inch hole which is known as a 'booster.' The size and position of this booster is all important, for the success of the device depends upon the proper proportion and interrelation of parts, volumes and pressures. At the surface, the compressed air pipe line is attached to one side of the casinghead and to the other side of the casinghead is attached the gas line with a side vent to the atmosphere. Valves are set on the air line. gas line, side vent and on the flow line.

"To pump the well the valves on the gas line and the vent pipe are closed and the valve on the air line is opened. Compressed air fills the annular space between the casing and the tubing and presses the fluid in the well pocket up the tubing until it rises above the level of the booster. Small amounts of air enter through the booster and break the column of fluid into 'pistons' causing them to flow up the tubing as in an air lift. This continues until all the fluid in the well to the level of the perforations at the bottom of the tubing has been displaced, whereupon the air passes up the tubing and cleans it out. The valve on the air line is then closed and the air in the well is vented through the vent pipe. After that the valves on the flow lines and vent pipes are closed and the valve on the gas line opened and the well is left until more oil heads up."



Cleaning out a well with compressed air in the Bradford field.

Well Flowed Twice Daily

THE pumping of the well in this way is periodic. The well shown in an accompanying illustration, operating with an air lift, is pumped twice each day. For some reason it makes less when pumped three times a day or once a day than twice; that number of flows gets the well's maximum production, which is about 15 barrels a day of fluid. Of this amount, 4 barrels is water. Depth of the well is about 1,800 feet.

In the well shown in the photograph, the orifices, or "boosters" as Lewis calls them, are drilled through flow collars located in the tubing 100 and 400 feet off bottom. Oil in this well is quite "lively". The other three air lifts operating on the same property have these orifices located 100, 200 and 500 feet off bottom, the oil produced in these wells not being so gaseous. In all four, the tubing is located just off bottom. Pressures of 300 to 380 pounds are used.

One thing is certain about this style of lifting oil, the well is kept clean. All sand, sediment and cavings are flowed out with the oil and in other fields where it has been used, it is contended

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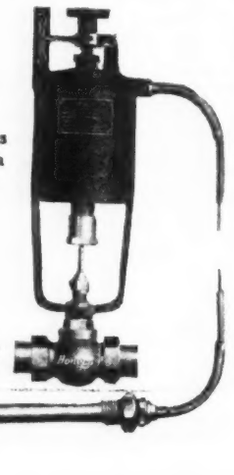

An "air head" of the type used in the Bradford field for many years. It operates in the manner of a steam cylinder, using compressed air instead of steam and giving a straight lift on the polish rod. Jerry B. Newby, assistant general manager of Petroleum Reclamation Co., was persuaded to get into the picture to afford an idea of the size of some of these "air heads." Many of the Bradford operators have gone to Oklahoma in past years; with the rejuvenation of the Bradford field, Mr. Newby is an Oklahoma geologist who came East.

that the process tends to keep the sand free of paraffin because when pressure is applied to flow the well, air enters the sand and when the pressure is released after the flow is completed, the air escapes from the sand, having a cleansing action.

The application of air can be reversed and the fluid flowed out between tubing and casing, but this practice, while speedier, is not generally recommended as the somewhat violent washing of the sand as the fluid rushes up may result in bad cavings.

Comparisons between the water and air flooding methods will be possible at some day now remote, as the recent installations of air drives in the Bradford field will provide comparable data after the air drive has been under way for suitable time. Intensive flooding with water—and to get best results it must be intensive—calls for continuous drilling ahead of the flood which the air drive does not. It remains to be seen how the yields compare. So far, both companies who are putting air on the sands feel greatly encouraged.

Shaffer Oil & Refining Floats Note Issue

CLEVELAND, May 26.—Shaffer Oil & Refining Co. recently offered at 99½ $7,500,000 two-year 6 per cent gold notes. Proceeds from the sale will be used to reimburse the company for expenditures for additions and extensions and for the retirement of its funded debt.

In the 12 months ended Feb. 28 Shaffer had met operating earnings available for interest, dividends and reserves amounting to $4,839,859 compared with $2,567,565 in the 12 months ended Feb. 28, 1925. The Standard Gas & Electric Co. owns 65 per cent of the Shaffer preferred stock and 98 per cent of its common.

The offering made through a syndicate is comprised of H. M. Byllesby & Co., Federal Securities Corp. and Janney & Co.

S. O. Kentucky Attacks Southeastern Rates

WASHINGTON, May 22.—The Standard Oil Co. of Kentucky which, like many other companies of that family group, never makes a formal complaint against a railroad or railroads while there is hope of getting a rate adjustment, has filed a complaint with the Interstate Commerce Commission against the freight rates in southern states, particularly in Alabama, Florida, Georgia, Kentucky and Louisiana, as destination territory, from refineries at Baton Rouge and Louisville, its bulk stations in the destination states, and the ocean terminals at Jacksonville, Fla., and Savannah, Ga., from which the bulk stations in Georgia and Florida are supplied.

The Standard, in its complaint, alleges it comes into competition with refiners and distributor in Arkansas, Kansas, Oklahoma, Louisiana and Texas and ocean terminal storage plants at Mobile and Pensacola, the competing supply of refined products from the North Texas and Mid-Continent fields moving via Memphis, so that it is interested in rates via Mississippi and Ohio crossings as well as from the ocean terminals and from the refinery points east of the Mississippi to the destination states mentioned.

As proof that there is no general or uniform basis for making petroleum rates, Standard calls attention to the fact that southeastern railroads have determined upon a distance scale, which will bring about a disruption of relationship as between New Orleans and Mobile to the southeast; that it will bring about a rate from Mobile differentially greater than 3.5 cents per 100 pounds under New Orleans without regard to the possibility of violent trade disturbances in the petroleum industry. The proposed revision will be to 159 stations in Alabama, Georgia and Florida, in disregard of a mileage scale prescribed in "Petroleum and Its Products Between Lower Mississippi River Crossings and Various Mississippi Valley Points," a case reported in 83 I. C. C. 98, regarded by the complainant as an important one.

The prayer is for just, reasonable, nonprejudicial and non-discriminatory rates to the states mentioned as destination territory and the other parts of the southeast technically known as Southeastern territory from Ohio and Mississippi River crossings, and from Gulf and south Atlantic ports.

PONCA CITY, OKLA.—Earl Oliver, formerly vice-president of the Marland Oil Co., in charge of production, who for some time past has been operating independently, announces that he has established a petroleum engineering firm, with headquarters in this city. The firm will be known as Earl Oliver & Co. It will specialize in examinations of, and reports upon, petroleum production problems, with special attention to analyses of values.

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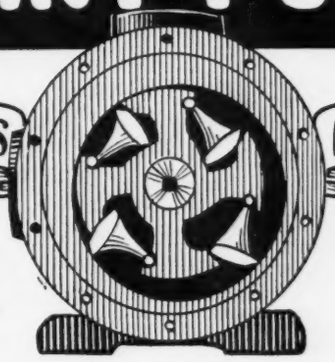

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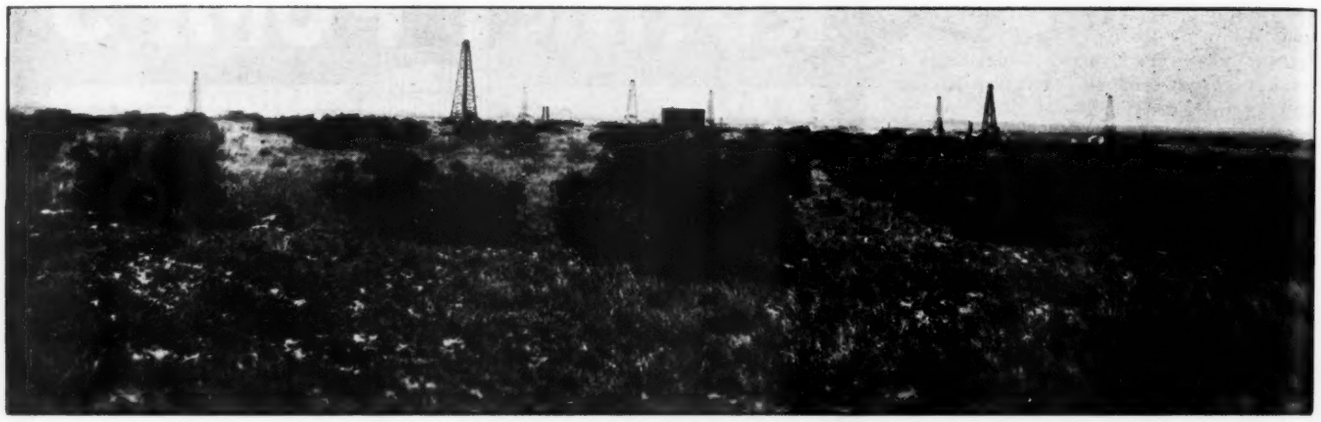
Powell District, South of Big Lake, Still Producing Enigma

By Paul Wagner
N. P. N. Staff Writer



In California derricks have orange groves and almond trees for a setting. In West Texas the lowly mesquite is about all there is in the way of vegetation for the eye to rest upon, in certain sections, at least. This is a section of the Powell district in northern Crockett county.

THE Powell district, in northern Crockett county, otherwise known as the World pool, remains a producing enigma of the West Texas territory first opened by the development of the prolific Big Lake field, 16 miles north and west.

Operators now feel, after nearly a year of work in the area, that the Powell district is destined to remain in the small well class as compared with the greater yields of the Big Lake field.

Drilling has not been carried far enough away from the original Powell wells to prove the extent of production, either as regards scope of the oil area or volume of yield. The fact remains, however, that the best well in the field so far has been the No. 2 completion of Carl G. Cromwell and others (formerly Wade & Bryant), which at total depth of 2693 feet pumped 210 barrels, initial production, the first 18 hours.

Shows Water Intrusion

THE No. 1 well of Cromwell and others swabbed about 260 barrels at its maximum, several months ago, giving it a producing value almost as great as the more recent No. 2 completion. The two Cromwell wells, early in May, were making 430 barrels combined production daily, but No. 1 is now showing about 9 per cent water intrusion.

Three wells of the Humble-Marland partnership, operated by the Humble Oil & Refining Co., were producing 371 barrels daily, combined production, at that time. The No 1 well was making pipeline oil, but Nos. 2 and 3 were showing 4 per cent water and 1 per cent b. s. The best well of this group was No. 2, which, at the end of April, was producing as high as 206 barrels daily.

THE Humble and the Marland Oil Co. of Texas took the lead in Powell district testing after purchasing the discovery well of the field, and additional acreage, from the Chester R. Bunker interests (World Club No. 1), in June, 1925. A total consideration of $1,400,000 was involved, including $350,000 cash, the remainder of the purchase price to be paid out of oil, if, when and as produced.

Additional leaseholds were also acquired by the Humble-Marland partnership, which took over approximately 2900 acres from the Bunker interests, but all properties held by Humble and Marland in this field were pooled for development by the first mentioned company. The Humble controls individually a large block some six or seven miles southwest of the Powell development, but this has never been tested.

Other Crockett county blocks of the Humble and Marland companies, south and southwest of the Powell district, are individually held by these interests. These include the Todd ranch, among others, where the Marland interests, in conjunction with the Republic Production Co., recently abandoned a deep test as a failure.

Gas On Todd Ranch

BETWEEN the Powell field and the Marland-Republic failure on the Todd ranch, the Magnolia Petroleum Co. is drilling below 2600 feet in a test which had a small showing of heavy oil at about the 1500-foot level. West of the Republic-Marland failure and also on the Todd ranch, The Texas Co. is now shut down at 2102 feet on the well taken over recently from the J. C. Cook et al interests. This is upwards of 15 miles southwest of the Powell field.

The first showing of oil was found in, the Cook-Todd test at 1705 feet where there had first been a gas blowout that destroyed the derrick. The test was afterward deepened and shot with 40 quarts of nitro-glycerin at 1900-1910 feet, where there was a second oil show. After a 15-hour shutdown following the shot, about three barrels of oil was bailed out of the hole.

After bridging back and shooting at 1695-1705 feet, in the gas sand, the flow amounted to about 750,000 cubic feet daily, or less than at first. The gas probably will be used as fuel to drill other test wells.

Hundreds of thousands of acres of leaseholds are held in Crockett county by the larger oil interests, most of the blocks, however, having been acquired several years ago when bonus prices were nominal. First attention was directed to this region prior to, and after, the Big Lake field discovery in southern Reagan county, in 1923. Fresh interest was attracted in 1925 when the discovery of the Powell field was considered probably to point to more important production than has yet resulted.

Pipeline to Powell Field

THE Powell district, with its six completed wells and 15 drilling tests under way, will get an operating stimulus from the short pipeline now being laid by the Marland interests to the field from their Kemper tank farm, west of the town of Big Lake, on the Kansas City, Mexico & Orient railroad.

The Marland line, built of 6-inch pipe, is about 15 miles long. It will connect

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Fig. 108
Screwed, Jenkins Standard Bronze Angle Valve.

Fig. 370
Screwed, Jenkins Standard Bronze Gate Valve.

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McCutcheon test of the Humble Oil & Refining Co. in Davis Mountains, showing edge of lava bluff in background.

with tank car loading racks at the Kemper storage farm, permitting shipment of this crude without mixing with Big Lake oil.

Other construction affecting the Powell district is confined to the building of cottages and mess halls incident to further development. Humble Oil & Refining Co. is completing a mess hall on the Powell property at a cost of about $1450. The Cromwell interests have just completed a bunkhouse, two residences and a mess hall on their 31½ acre Powell property, which was taken over several months ago by payment of a reported consideration of $72,000 to Wade & Bryant, its earlier owners.

With the exception of the discovery well and one or two other scattered operations, the Powell field wells are all equipped with steel derricks, most of them of the type manufactured by the Lee C. Moore Co.

Steel derricks have been found peculiarly adaptable to the West Texas territory for a number of reasons, including their wind resistance, ease of dismantling for transfer to other locations, general durability and their advantage from a transportation viewpoint.

Besides the Humble-Marland partnership and the Cromwell et al interests, other operators in the Powell field are the J. K. Hughes Developing Co., the Gulf Production Co., and the Roxana Petroleum Corp. The Gulf is drilling three wells, J. K. Hughes three and the Roxana one. Humble and Marland have made locations up to No. 9 and Cromwell et al are drilling Nos. 3 and 4.

The Sarg test of the Humble-Marland partnership, about a mile southeast of the present producing wells, made a small amount of oil when completed some time ago, but it is not rated as a commercial well.

Production in the field comes from a lime horizon generally identified as belonging to the Wichita-Albany series of Lower Permian age. It is found nearly 200 feet above sea level, the wells producing from drilling depths between 2600 and 2700 feet. Surface elevations in the field are mostly in excess of 2800 feet above sea level. These elevations compare with about 2650 feet in the Big Lake field, 16 miles north and west, where oil is found in the lime horizon about 200 feet below sea level.

If You Want A Vacation Get A Job On This Davis Mountain Wildcat

THE hazy opalescence of atmosphere apparent in the early morning or the late evening, commingled with the effect of desert peaks on the landscape, combined to provide a charming setting for the commercial invasion of the Davis mountains in search of oil.

If the search is successful, the field forces necessary to develop the region may rise to their daily tasks amid canyons carved out of buff or grayish limestones and deep red lavas, which give colors and contrasts not found elsewhere in Texas.

Entirely different erosion effects are found in the limestones and the lavas, creating a picture of marvelous beauty. The limestone series gives the buttressed effect characteristic of Gothic architecture, whereas the undermining of massive lava creates irregular and hummocky landslide topography.

Lava flows and associated tuffs in the region reach a maximum thickness of 2000 feet, some of the cuts in the north side of the range reaching through the entire section. It is in such a cut, in Limpia canyon, at the foot of a great lava bluff, that the Humble Oil & Refining Co. is now drilling its No. 1 McCutcheon test, in GH&SA sec. 68, block 31, Jeff Davis county.

Drilling in The Cretaceous

THE test, which is shown in the accompanying picture, started in beds of Upper Cretaceous age, which outcrop from under the Pleistocene alluvium and the extrusive igneous rocks found to the north and the northeast.

Beds drilled in the first 1200 feet include the chalky formations of the Cretaceous, which are considered the equivalent of the Taylor-Navarro series of eastern Texas and the Niobrara of the Rocky mountain region.

At the present drilling depth just below 1200 feet the testing proceeds in the broadly termed Boquillas beds, which are so called to include a number of undifferentiated Upper Cretaceous formations.

The Boquillas flags phase of the Cretaceous in this region, which has been described as consisting of thin-bedded, yellowish-brown, flaggy limestones, correlates broadly with the Eagle Ford series of eastern Texas and north Louisiana, at least as to age.

Beds of the region are generally known, however, by Rocky Mountain

district terminology, the Benton, Niobrara and the Pierre Cretaceous strata all having been identified under the lavas at various places in the vicinity of Limpia canyon, between Limpia postoffice and Wild Rose canyon.

In Front Range Mountains

FORMATION names of the Rocky Mountain region are peculiarly appropriate in this part of Trans-Pecos Texas, where the easternmost fold forms the front range of the Western Cordillera, or mountain system, of North America. The Cordillera, which extends from Alaska to Tierra del Fuego, enters Texas on the north as the Guadalupe mountains and is continued successively southward as the Delaware, the Davis (Limpia or Apache), the Mount Ord and the Sierra del Carmen, the last mentioned extending into Mexico.

The structural trend of the front range determines the courses of the Rio Grande and the Pecos river, according to C. L. Baker and W. F. Bowman, who worked the Trans-Pecos region for the Bureau of Economic Geology at Austin; their report being issued as Bulletin No. 1753. The front range also determines the structure of the plains east of it, the rock strata of which dip away gradually.

The front range between the Texas & Pacific railroad on the north and the Southern Pacific on the south is formed by the Davis mountains and their northeastern offshoot, the Barilla mountains. The Humble's Limpia canyon test is roughly 35 miles east of south of the Texas & Pacific station at San Martine and 30 miles, on an airline, north of the Southern Pacific at Alpine. The town of Alpine is the southwestern terminus of the Kansas City, Mexico & Orient railroad and is an important West Texas station on the main line of the Southern Pacific from New Orleans to San Francisco.

Toyahvale, 15 miles east of north of the Humble's test, is reached by a short line railroad known as the Pecos Valley Southern, which extends a distance of about 50 miles down from the town of Pecos, in Reeves county, where it connects with the main line of the Texas & Pacific and with the Santa Fe branch line north to Carlsbad, N. M.

The Humble's test is located near the crest of an anticline mapped as extending along three-fourths of the northeast side of Jeff Davis county, its course roughly paralleling that of the Pecos river, nearly 50 miles north and east. The length of the anticline, as mapped, is between 30 and 35 miles; and the test is within five miles of the south end.

Structure Observed in Lava

Dips indicating the structural features of the region are plainly observable in the lavas, which once overflowed the region in great volumes. It is interesting in this connection to develop the fact that drilling by the Hum-

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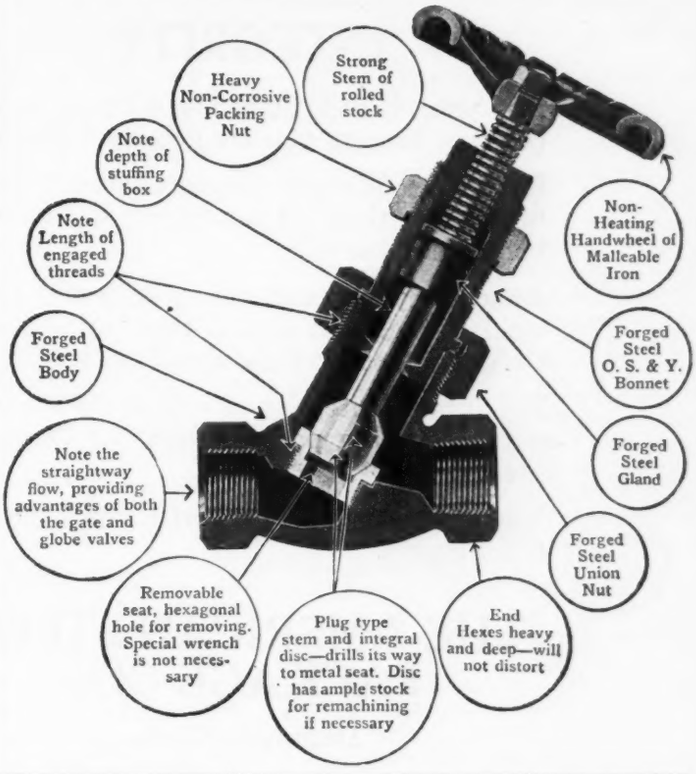
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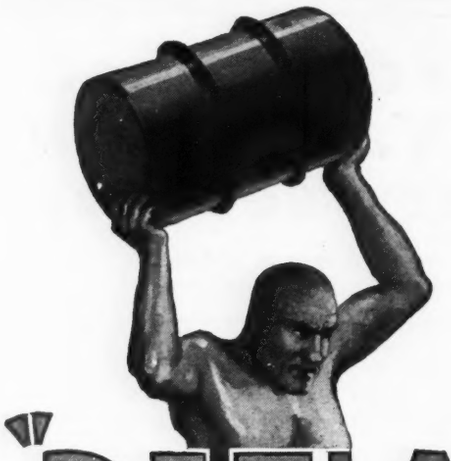

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bie found no older lavas in the Cretaceous beds, the rhyolitic flows now found at the surface representing the only results of volcanic disturbance, at least in the area immediately adjacent to Limpia canyon.

Messrs. Baker and Bowman in their bulletin hereinbefore mentioned say that the lava area once extended east of its present limits in the Davis and Barilla mountains, but has there been removed by the erosion of Cenozoic time. They describe the anticline on which the Humble is drilling as running southeast from near San Martine sectionhouse, on the Texas & Pacific railroad, east of Gomez peak through the Washita and Niobrara rocks southeastward through the summit of Star Mountain, crossing Limpia canyon about three miles south of Limpia postoffice and to the southeastward crossing Horsethief canyon near its mouth.

Characteristics of Region

A TRIP into the Davis mountains from Toyahvale follows a winding road through canyons and across shallow mountain streams, where the air is dry and pure under nearly all conditions, The dryness modifies the effect of both heat and cold, so that great extremes of temperature are uncommon.

Rainfall consists generally of local showers, but these are of sufficient frequency to give greater life to vegetation than may be found in the plains country of west Texas beyond the Pecos valley, to the eastward.

The grassy plateaus with the deeper soils have the short grass vegetation of the Llano Estacado, or staked plains; the flats, covered by fine soil, are characterized by creosote bush, greasewood, mesquite, sage brush and cat's claw; in the stream valleys and canyons are cottonwoods, willows, Spanish buckeye, Arizona buckthorn and Mexican persimmon, while in the higher mountains junipers and several species of cedars abound.

Apple growing on an extensive scale is getting under way in the stream valleys north of Fort Davis, which has now acquired a considerable reputation as a West Texas summering place. Besides the natural beauty of the region and its accessibility only by automobile or stage line from Alpine, or the north, the Davis mountain country has the advantage also of not being too far removed from a railroad for the convenience of the successful vacationer.

Roxana Opens Cleveland Office

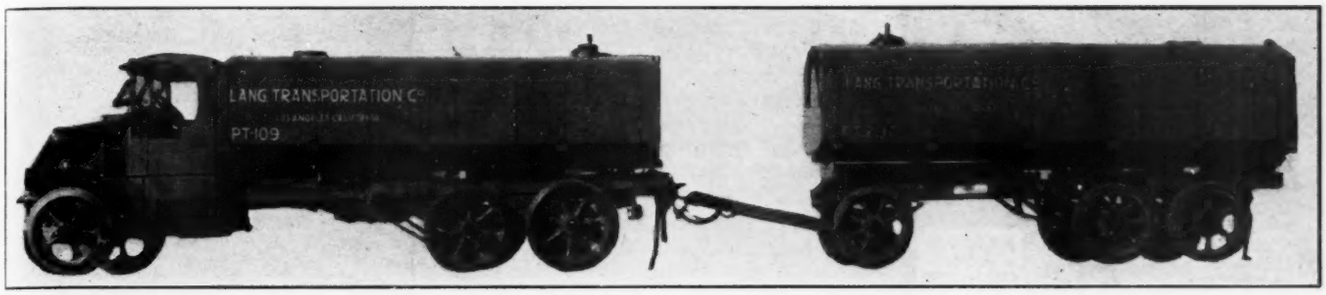
ST. LOUIS, MO.—The Roxana Petroleum Corp. has opened a branch sales office in the Guarantee Title Bldg., Cleveland, O., which will be in charge of R. D. Ebbert.

The company recently moved its head offices into the new Shell Bldg. at St. Louis. Other branch sales offices are at Chicago, Kansas City, Mo., Tulsa, and Indianapolis, Ind.

Find Truck Hauling Cheaper Than Rail

By Paul Truesdell

N. P. N. Staff Writer



This is one of the six-wheel truck six-wheel trailer trains that is being used to haul gasoline from refinery to bulk station in California. The train carries 6200 gallons of gasoline and makes a 200-mile trip overnight.

WHEN a man drives to work alone in a seven-passenger sedan 14 feet long and weighing a couple of tons, he is using a large amount of machinery, power and capacity to accomplish a small result—small, that is, compared with the work that car could do. In other words, the overhead is extremely high.

Nobody need worry about this, however, because it is a personal matter. The man is giving himself the luxury of travelling in the extreme of comfort. He is paying for it himself and presumably can well afford to pay for it.

But if an oil company should buy a tank truck for $5000 or $6000 and send it out day after day hauling gasoline long distances over city streets and country roads, carrying only two thirds the load it might carry, this would be not a personal matter with the head of the company but a serious business matter.

Oil companies generally, of course, are getting all the work out of their trucks that the present type can give.

But developments that are moving along out in California make it appear that the time is here when an oil company, for long distance hauling, can get a much greater carrying capacity out of a truck at the same expense for wear and tear and gasoline and oil and tires and driver than has ever been possible before.

Six-Wheel Equipment

THIS is the development of a new type of six-wheel truck and six-wheel trailer. Many of the oil companies in all parts of the country have long been using tank trucks coupled to trailers with tanks mounted on them in their long distance hauling. However, so far as we know, the use of six-wheel truck and trailer of the special design that is being used in California, is a new thing.

About 2,000,000 gallons of gasoline a month are being hauled for refining and marketing companies from their refineries to their bulk stations within a radius of 200 miles, by six-wheel truck and trailer, on contract, by a single trucking company, the Lang Transportation Co. of Los Angeles at an average saving of 25 per cent over the cost of hauling by rail. This saving is in freight bills alone, without considering some incidental and less direct savings.

In addition, the oil companies in California are doing considerable experimental work to determine the advisability of using such equipment themselves on a large scale.

It is known that jobbers in many parts of the country are studying the possibility of transporting the gasoline they buy from the refinery to their own bulk stations in their own trucks. Would it be cheaper that way than by rail? What is the limit of distance within which the truck can haul gasoline cheaper than the railroad?

The subject is full of interesting possibilities and the coming of the six-wheel equipment seems likely to be an important factor in making possible—and profitable—long distance hauling of gasoline.

How Idea Originated

BEFORE going further with description of the six-wheel truck let us introduce the Lang Transportation Co., of Los Angeles, Mike Lang, its head and Howard Lang, his son.

Mike Lang started in the transportation business in 1906 when the oil fields around Bakersfield were new. His principal business, then as since, came from the needs of the oil industry. His equipment when he started was a team of horses and a wagon and most of his business was in hauling casing and other oil field supplies. He expanded his equipment and his organization with the growth of the oil business in the state.

For the past several years he has been carrying on a very large transportation business both for the oil industry and others and as well has entered the pipeline building business on a large scale. His son Howard has grown up with him in the business.

About a year ago it occurred to Howard that there was another type of service his company could render to the oil business as well as hauling heavy material for the producing branch. This was in substituting truck for railroad transportation of gasoline in making deliveries to distant bulk stations. It is a theory of Howard's that hauling up to a distance of 200 miles belongs to the truck rather than to the railroad.

Big Load The Answer

MOST of the refining companies in California operate their own bulk and filling stations and California is a land of magnificent distances. A good many of the bulk stations are from 50 to 200 miles from the refineries. It had been the practice to ship the gasoline to these distant stations by tank car.

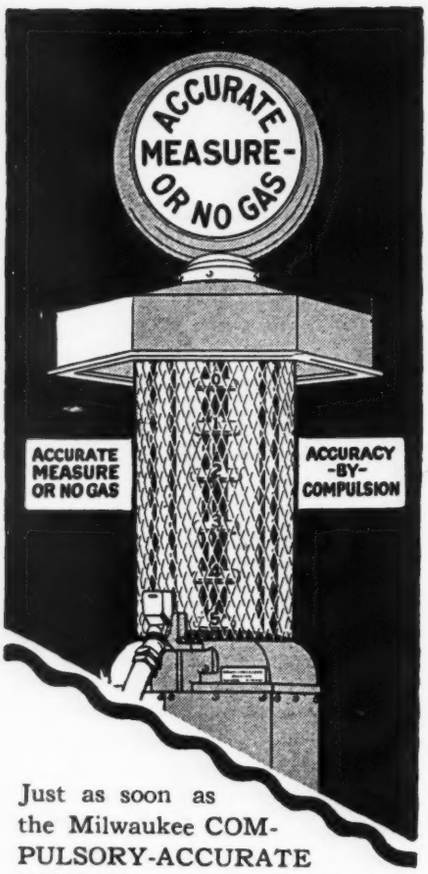
Howard Lang figured that, if he could carry a big enough pay load, he could transport this gasoline at a profit to his company and at a saving to the oil companies for distances up to 200 miles. But the problem was, how could he carry a big enough load?

Like most other states, a strong prejudice existed among the citizens of California against the use of heavy trucks and heavy loads on the highways because of their destructive effects. This prejudice had crystallized into a law governing the weight of the loads that might be carried on trucks over the highways of the state.

The maximum weight allowed for a truck and trailer load was 22,000 pounds which, figuring the weight of gasoline at 6½ pounds per gallon, would mean only about 3300 gallons. Howard Lang's pencil work convinced him that to make the business profitable it would be necessary to carry a minimum of 5000 gallons to a load.

Six Wheels Save Roads

The highway department of California and the government good



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roads bureau had made a considerable study of the effect of truck travel on various types of highway construction by various types of trucks and they found that a much greater load could be hauled at less damage to the road, on a truck the rear end of which was carried on four wheels instead of two, than on an ordinary four-wheel truck.

Mr. Lang decided that a six-wheel truck was the answer to his problem. He took the matter up with the Los Angeles factory branch of the International Motor Co., manufacturers of the Mack truck and Mack engineers designed a six-wheel truck with the two axles and four rear wheels built into a rear truck by itself. This rear truck was mounted on a heavy rocker shaft attached to the frame so that the rear wheels had sufficient play to follow irregularities in the road.

The Pierce Motor Co. of Buffalo, manufacturers of trucks, also came into the field with a six-wheel vehicle designed for this heavy hauling duty and the Moreland Truck Co. of Los Angeles put out a six-wheel truck.

Experiments with the six-wheel truck showed why they are so much less damaging to road surfaces under heavy load. With the rocker shaft mounting, when the front rear wheel strikes a hole in the pavement, it only goes down part way in the hole, then climbs out and holds the other rear wheel from going down to the bottom of the hole. So the impact which is given a break or depression in the surface by a single rear wheel on an ordinary truck, is greatly softened when the load is divided between two wheels and the size of the hole is but little increased, while the rear wheel of an ordinary truck enlarges the hole rapidly.

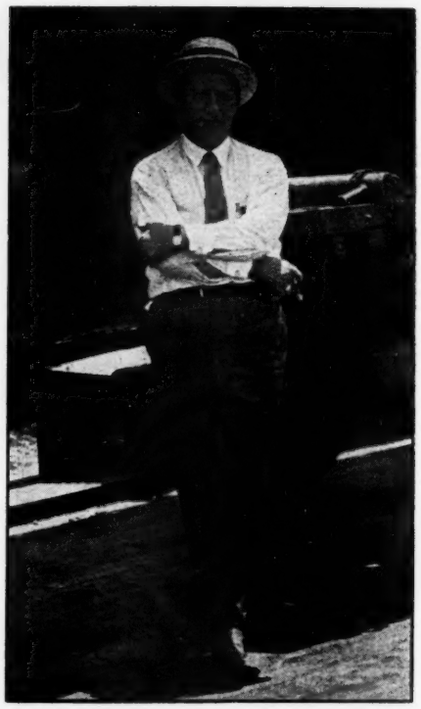
Mr. Lang says that experiments have showed that the two extra rear wheels carry from 25 per cent to 37½ per cent of the whole load, according to the design of the truck. On these six-wheel trucks it was possible to put a tank to carry 3200 gallons of gasoline. It was necessary, in order to carry the fullest possible pay load, to have a trailer also. Mr. Lang soon saw that the same disadvantages that belonged to a four-wheel truck belonged to a four-wheel trailer. That is, it could not carry such a heavy load and it was more destructive of the roads.

Six-Wheel Trailer Follows

MR. LANG set the automobile engineers to work again and they designed a six-wheel trailer on which a 3000 gallon tank could be mounted.

The result is that the Lang Transportation Co. is now operating 12 of these outfits, each consisting of a six-wheel truck and a six-wheel trailer. They have sold several of the oil companies on the advantage of using their truck hauling service for gasoline as against shipping it by rail.

Among the oil companies for which the Lang trucks are hauling are the Associated Oil Co., Shell Co. of California, and California Petroleum Co.



Mike Lang, who started in the trucking business when the oil business started in California in 1906. He started with a team and wagon. Now he owns 115 motor vehicles, including 12 of the six-wheel outfits.

According to Mr. Lang, the saving in time to the oil companies of delivery to distant stations by truck is great. For instance, in many cases where the station is around 200 miles from the refinery or even less, it would take a shipment two or three days to reach the station by rail and by truck it is reached overnight.

He states that the truck hauling of gasoline saves the oil companies around 25 per cent over the cost of rail shipment as well as turning over to them the considerable oil and gasoline business created by the trucks, because heavy duty trucks such as these eat up a lot of oil and gasoline.

Since the hauling of gasoline on six-wheel trucks began, some of the oil companies have begun trying them out on long hauls themselves and their use is by no means limited to the transportation of refined products. For instance a much greater load of casing or other material can be hauled on a six-wheel truck than on a four-wheeled vehicle both from the standpoint of wear on the truck and from the standpoint of running foul of the highway department and the road laws. Material for gasoline plants, in fact some entire portable plants, can be hauled to advantage on this vehicle.

Such trucks lend themselves to the hauling of any exceptionally heavy loads. They do the hauling with less wear and tear on the truck, Mr. Lang says, than if a four-wheeled truck were used to carry its lesser load. Six-wheel trucks are longer lived in Lang's experience.

According to the estimates made by the Langs, it costs about $1,000

more to buy a six-wheel truck than to buy a four-wheel one of the same chassis size and four-wheel trucks can be converted, at least in the case of the Mack, by replacing the regulation two rear wheels with the four-wheel attachment.

The gasoline-hauling truck and trailer outfits carry about 6200 gallons to the load, which is probably double the amount now being carried on most four-wheeled truck and trailer units. The Langs point out that it does not take much more gasoline and lubricating oil to haul a 6200-gallon load than a 3000 or a 3500-gallon load, it takes no more time to make such a trip and it costs no more for the driver and as before stated, wear and tear on the truck is somewhat less.

It seems likely that oil companies all over the country, at least those that are confronted by long hauls to supply distant stations, will at least investigate the merits of the six-wheel truck and trailer to the end of carrying bigger loads at the same cost. Because of the better distribution of the weight of the load the Langs say the tires on six-wheel units last at least twice as long as they do on four-wheel trucks.

Mike Lang states that while 16,000 or 18,000 miles is the usual life for a pair of hard rubber tires on the rear wheels of a four-wheel truck, that on one of his six-wheelers one set of tires has rolled up a mileage of 50,000, although this is unusual, of course.

Slow Driving a Rule

THE Langs, by the way, are advocates of slow driving for trucks, especially heavy trucks. They do not believe that the way to save time in heavy hauling is by speeding up the trucks. They have governors on their equipment which holds the speed down to 10 or 15 miles an hour.

Among advantages that the oil companies who are using the Lang transportation service in California have found are that the bulk stations served by them can run on smaller stocks because of the shorter time it takes new supplies to reach them by truck and the investment in goods in transit is greatly cut down over the investment when numerous tank car loads are always on their way to destination, averaging from two to five days to reach it.

The Langs think that the load their six-wheel-truck-six-wheel trailer trains carry, 6200 gallons, is about the maximum that can economically be hauled at one time and they think that 200 miles about marks the limit of economical competition with the railroad. Of course, the kind of roads to be travelled would have a great deal to do with the load and distance factors.

And perhaps, with new developments, under other conditions the maximum load and maximum distance can be increased economically.

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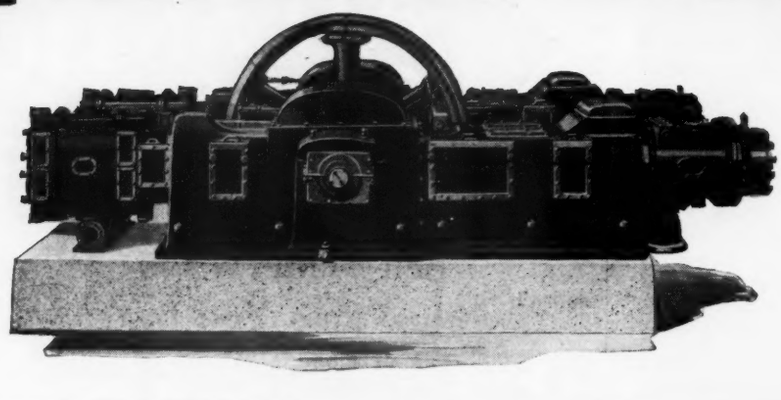

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Search for New Crude Speeds Up As New Fields Fail to Materialize

By A. F. Hinton
N. P. N. Staff Writer

TULSA, May 22

OKLAHOMA production declined nearly 7000 barrels in daily average the past week, the loss having been due principally to the fluctuating character of production in the Garber field, which goes up rapidly under the stimulus of new wells, only to drop off almost as speedily during the interval between additional completions.

This field and Wewoka have been the chief factors in the state's output for some weeks past, and, had it not been for their influence, it is apparent that Oklahoma production would have declined by this time to a point far below its present figure.

It is apparently impossible to gauge what Garber will do over any length of time, for, as fast as development in one sand has been completed, work starts on the exploitation of another. This results in a continuous postponement of the field's final period of decline and causes recurrent peaks of production as large numbers of new wells are brought in.

As for Wewoka, it seems likely now that the deep sand production has about seen its best days, and that a rapid decline is now to be looked for. Water intrusion has already caused several wells to go dead and stay that way, while most of the remaining wells are showing water in increasing amounts, falling off in oil production meanwhile.

These two fields constitute at present the only potential source of large new production in Oklahoma, at a time of year when drilling is at its height and an intensive search for oil going on. Who can remember in recent times when the year was half gone without having witnessed the discovery of from one to three or four important new Oklahoma fields, with their "threats" to the crude market, and the apprehension caused by their mounting outputs?

Usually at this time of the year we have our Burbanks, or Tonkawas, or Cromwells or similar fields, fruits of discoveries of early spring, reaching mature stature as mid-summer approaches, and bringing thoughts of over-production, reduced crude prices, and that nightmare of the oil business, proration of runs.

Discoveries Lacking

THIS summer, so far, there is nothing of that sort confronting us. Discoveries of the early spring and of more recent months have not only been few in number, but, almost without exception, have lacked the class and "punch" of the sort of wells that herald the coming of a real new field. Small pools have been developed around some of these discoveries, while others have resulted in dry-hole offsets and have faded entirely from the picture.

In the deep sands to which it is now apparently necessary to penetrate in the search for oil, the water problem is always a menace, and makes its appearance sooner or later, sometimes ruining the discovery well even before offsets have gotten fairly started, and causing an abrupt cessation of the excitement attendant upon the drilling in of the first well.

From the standpoint of companies whose business it is to find new sources of crude oil and to produce it when found, the present situation in Oklahoma presents a very serious aspect. It is true that they prosper when crude prices are high, and crude prices are not high when everybody is finding oil. At the same time it is necessary to the success of a large company owning refineries and marketing facilities that new production be developed to make up for the rapid decline of its producing properties. And there is no gainsaying the fact that every large company in Oklahoma is now keenly searching for new production, using all its technical knowledge and skill to find oil.

THE recent increase in the price of Mid-Continent crude served only to intensify this search, and to intensify also the eagerness with which the crude-buying agencies are seeking connections in the field. Almost every large company, also, is in a receptive mood when it comes to the purchase of producing properties, and is willing to make a check of the output of any company that intimates it might be willing to sell out. Of course, making a check of production and making a deal are two very different things, but the willingness to trade is very apparent.

This condition of affairs, coupled with other factors of the situation, leads Mid-Continent oil men to look with complacency on the development of the Texas Panhandle field. They expect that area to produce a great deal of oil. They point out that, from present indications, it will be badly-needed oil, and that it cannot be produced in quantity to threaten the crude market situation with present facilities for transporting it to refineries.

One executive of a large producing company in Tulsa, a company that is actively engaged in the aforementioned search for oil in Oklahoma and also is developing considerable holdings in the Panhandle, set forth his views in an interesting manner to the writer today. "It is folly," he said, "in this day and time to attempt to look farther ahead in the oil business than, say, five or six months, and one is fortunate indeed if he can make accurate forecasts even over that long a period.

Will Need Panhandle Crude

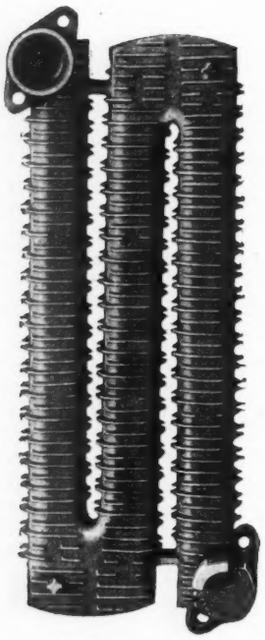
SIX months from now we may see a rapidly growing major oil field in the place where today only a lonesome wildcat derrick stands. However, if we

(Continued on page 58)

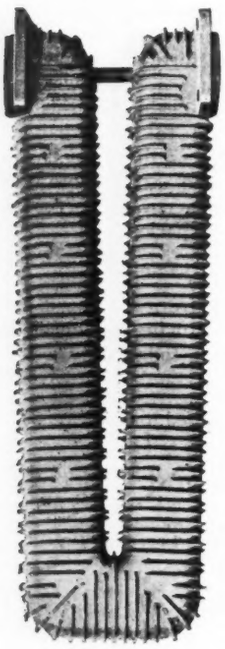
Drilling Operations in Oklahoma, Kansas and North Texas

	May 22—Week Ending—May 15									
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	3	4	39	0	46	4	4	36	1	45
Other Osage	7	9	58	10	84	5	15	62	5	87
Bristow-Cushing	18	26	180	35	259	17	28	181	32	258
North Oklahoma	12	36	200	66	314	11	37	197	66	311
South Oklahoma	21	26	175	37	259	21	30	178	35	264
Muskogee	...	16	54	12	82	...	13	53	12	78
Okmulgee-Bristow	14	42	158	36	250	12	53	141	40	246
Tonkawa	1	...	6	2	9	1	...	7	1	9
Wewoka-Cromwell	22	22	165	30	250	19	44	160	30	253
Total Oklahoma	98	181	1035	228	1542	90	244	1015	222	1551
KANSAS	58	104	270	95	527	58	113	264	99	534
NORTH TEXAS										
Eastland County	...	...	51	6	57	...	2	47	7	56
Stephens County	...	17	39	12	68	...	18	39	11	68
Texas Panhandle	...	91	159	26	276	...	77	156	17	250
Mexia District	...	...	3	2	5	...	1	1	3	5
E. Texas Wildcats	...	4	7	19	30	...	3	9	14	26
W. Texas Wildcats	...	80	301	70	451	...	89	304	71	464
Wichita Falls	...	81	145	36	262	...	59	150	36	245
Total N. Texas	...	273	705	171	1149	...	249	706	159	1114
GRAND TOTAL	156	558	2010	494	3218	148	586	1985	480	3199

Eliminate frequent shut-downs caused by corrosion



14 Square Foot Section



19½ Square Foot Section

The greatest enemy to continuous and economical operation is corrosion of condenser box equipment.

Corrosion is eliminated by the complete installation, from above the water line to the box outlet, of Sterling Oil Sections and Accessories, made of rugged and rust resisting cast-iron.

Further advantages of Sterling Oil Sections are:

1 Counter-current flow.

2 Manifold distribution for vapors and continuous flow for liquids.

3 Submerged surface: assurance against injury to property should water-control be neglected or water shut off.

4 Low velocities and free, easy flow, eliminating pressure on coils, and reducing receiving house temperatures.

5 Cast-iron throughout; eliminates bi-metal condition and assures maximum life.

6 Low cost installed; easily set up and require less support.

7 Fifty per cent saving of space in boxes.

8 Accessible for cleaning and replacement.

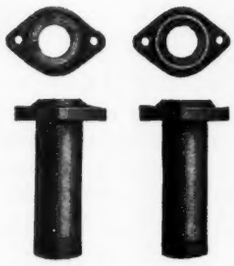
Write for the New Engineering Catalogue

AMERICAN RADIATOR COMPANY

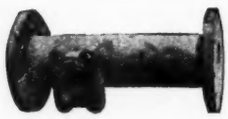
Manufacturers of IDEAL BOILERS *for* OIL BURNING

40 W. 40th St., New York, N.Y. 816 S. Michigan Ave., Chicago, Ill.

Sterling Oil Sections are immediately available at our plants in Kansas City, Mo., and Springfield, Ohio



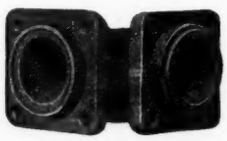
Extension Piece



Header

Spool

Return Bend



Elbow

Ferrule

STERLING OIL SECTIONS

For manifold use-for continuous use-for cooling

Completions in North Louisiana and Arkansas, Week Ended May 20

LOUISIANA

Urania—LaSalle Parish

Company	Well	Location	Depth	Yield
Carlton & Thorpe	Kyle & Davis No. 1	25-10-1E	1548	100
Carter & Hurley	Urania No. 1	8-10-2E	1600	dry aband.
Explorers Oil Corp	King No. 2	36-10-1E	1522	100
Hardtner Oil Co	Urania No. 3	7-10-2E	1520	300
Hunt et al	State No. 4	26-10-1E	1486	100
Hunt, McCurry & Zoeder	Winberry No. 2	18-10-2E	1520	20
H. M. Jones	Russell No. 4	25-10-1E	1537	25
Jones et al	Norrid No. 1	25-10-1E	1565	85
Louisiana Oil Ref. Corp.	Tremont B-31	25-10-1E	1525	250
McWilliams & Foster	J. D. Russell No. 2	25-10-1E	1547	100
Nat. Gas & Fuel Corp.	Urania B-2	18-10-2E	1520	1000
Nat. Gas & Fuel Corp.	Urania B-4	18-10-2E	1512	350
Nat. Gas & Fuel Corp.	Urania E-1	18-10-2E	1510	100
Nelson et al	Bryant & Harvey No. 1	26-10-1E	1555	65
Roberts et al	Russell No. 6	25-10-1E	1540	60
Williams Drilling Co	Herbert No. 4	26-10-1E	1540	80

Caddo Parish—Caddo District

Dixie Oil Co (Standard of Ind.)	Robertshaw No. 75	12-21-15	1612	15
McGoldrick et al	Murray No. 8	14-21-15	1725	10
Texas Oil Co	Caddo Levee Board No. 61	33-21-16	1830	50
Texas Oil Co	Harrell No. 57	4-21-16	2375	50

Cotton Valley—Webster Parish

Gulf Refining Co	S. P. D. Coyle No. 2	21-21-10	2543	75
Alabama Pet. Co	Robbins B-3	21-21-10	2580	50
Humble O. & R. Co	R. R. Cox No. 1	22-21-10	4215	junked abn.

Lincoln Parish

Texas Oil Co	Tremont No. 1	27-18-1W	3315	dry aband.

Marion County—East Texas

Crusader Oil Co	Burks No.1 A.Moore HRS		2420	10

ARKANSAS

Miller County

J. L. Braden	Wiseman No. 1	36-15-20	2710	s.w. aband.

Nevada County

Company	Well	Location	Depth	Yield
Smitherman&McDonald	C. W. Waters No. 4	2-14-21	1188	100
Smitherman&McDonald	C. W. Waters No. 5	2-14-21	1170	150
Steele et al	Haynie No. 1	1-14-21	1130	25m. ft. gas

Stephens

Buffalo Oil Co	Davis No. 2	22-15-19	1555	150
Reynolds et al	Sawyer No. 1	22-15-19	1534	10m. ft. gas

Lisbon

Atlantic Oil Prod. Co	Goodwin No. 1	16-17-16	2140	65
Magnolia Pet. Co	Dumas No. 7	9-17-16	2115	300
Marine Oil Co	Slaughter No. 6	9-17-16	2145	100
Marine Oil Co	Slaughter No. 7	9-17-16	2105	150
Owens et al	Slaughter No. 4	4-17-16	2180	50
Pure Oil Co	Dumas No. 3	9-17-16	2135	35
Rovenger Oil Corp	Dumas No. 6	9-17-16	2115	50
Rovenger Oil Corp	Graham No. 2	16-17-16	2132	25
Roxana Pet. Co	Flornoy No. 2	4-17-16	2123	150
Roxana Pet. Co	Flornoy No. 3	4-17-16	2143	200
Southern Oil Purch. Co	Slaughter No. 1	3-17-16	2124	35
Stock et al	Dumas No. 1	10-17-16	2113	10
Wingfield et al	Dumas A-8	9-17-16	2105	500
Wingfield et al	Dumas A-9	9-17-16	2109	250
Wingfield et al	Slaughter No. 7	9-17-16	2107	80
Wingfield et al	Slaughter No. 8	9-17-16	2108	20
Wingfield et al	Slaughter A-2	9-17-16	2130	65
T. J. Woodley	Dumas No. 3	9-17-16	2120	50

Smackover

Ohio Oil Co	Goodwin No. 6	29-15-15	2590	100
Pure Oil Co	Brister No. 12	28-15-15	2635	100 4m. ft. gas
Barbara et al	Houston No. 1	12-16-16	2690	s.w. aband.
J. G. Childs	Fee No. 2	8-16-16	2605	70
Federal Pet. Co	Lawton B-6	10-16-15	2638	60
H. L. Hunt	Murphy No. 1	33-16-16	2160	10
George & Jones	Murphy No. 5	18-16-15	2560	dry aband.
C. L. Saxon	Fee No. 2	4-16-16	2609	120
Smitherman&McDonald	Saxon B-2	5-16-16	2250	10
Standard Oil Co	McClannahan No.12	6-16-15	2650	30m. ft. gas

Completions in North and Central Texas, Week Ended May 22

Archer County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Beasley	2-Wolfe	SP	1338–1356	35
Humble	6-Wolfe	SP	1330–1349	10
Shasta et al	1-Meade	Meade Past.	1445–1459	40
Gulf	5-Jeske	McCoy	T.S.1172	70
Pet. Prod	1-Kunkle	McCory	1155–1160	10
Sun	2-Brown	McCoy	1137–1167	10
Sun	3-Brown	McCoy	1147–1157	15
Texhoma	1-Kunkle	McCoy	1143–1165	31
Texhoma	2-Kunkle	McCoy	1145–1162	34
Camp	5-Roching	BBB&C	1169–1175	35
Texas	9-Beardon	Hopkins	1059–1083	7
Tidal	1-Magnolia	Mangold	T.D.1870	Dry
Shappel	2-Wilson	ATNC	T.D.1644	Dry
Oil Inv	1-Fee	Richards	T.D.1602	Dry
Simms Oil	1-Turberville	Carson	T.D.2170	Dry
Consolidated	2-Oldham	Hubble	T.D.1450	Dry
Hunt-Zeigler	1-Walsh	TEL	T.D.1450	Dry
Golding et al	1-O'Donnell	Crawford	T.D.1310	Dry
Hooper et al	1-Robinson	Dorsey	T.D. 710	Dry

Baylor County

Green et al	1-Cockrell	TEL	T.D.1665	Dry
Pandem	1-Young	TEL	1410–1413	24

Brown County

Humble	2-Hodnott	Harris	1160–1210	10
Barclay et al	10-Dunn	Delgado	1129–1145	60
Moorman et al	2-Byrd	Mitchell	1305–1323	100
Cohen et al	7-Stone	Meller	1278–1301	20
Hughes	5-Arlege	Mitchell	1285–1323	400
Phillips	2-Dunn	Delgado	1155–1170	125
Texas	10-Dunn	Delgado	1129–1149	125
Curry et al	1-Pickett	Logan	1253–1258	50
Hill-West	3-Newton	Mitchell	1206–1228	100
Root	1-Suttles	Mitchell	1133–1140	25
Moore	1-Miller	....	T.D.1750	Dry
Ballard et al	1-Hickman	Benson	1229–1232	Dry
States	5-Allen	Delgado	T.D.1317	Dry
Conway	6-Pickett	Logan	T.D.1470	Dry
Conway	7-Pickett	Logan	T.D.1311	Dry
Cowboy Evans	2-Eubanks	Mitchell	T.D.1350	Dry
Millham	1-Eddington	Millican	T.D.1700	Dry

Callahan County

Redmond et al	1-Atchley	SP	T.D.1935	Dry
Moore	1-Brashara	Hickman	T.D.1735	Dry
Canyon	2-Derrington	....	1403–1409	510

Coleman County

Superior	1-Helton	Eubanks	T.D.1774	Dry
Mahlstadt-Mook	1-Overall	Ferguson	T.D.1045	Dry

Comanche County

Milham	1-Powers	Cooper	T.D.3260	Dry

Concho County

Dutton et al	1-Schulz	TNO	T.D.1404	Dry

Crane County

Zock et al	1-Keith	TC RR	2563–2570	70
Markand	1-Benton	Prater	2340–2358	50
Independent	1-Taylor	Sapp	2038–2045	130

Crockett County

Humble	2-Powell	BB2	2656–2683	180
Humble	3-Powell	BB2	2669–2719	50
Bryan et al	1-Powell	BB2	2670–2665	250
Bryan et al	2-Powell	BB	2668–2693	180

Edwards County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Stout et al	1-Patterson	HE & WT RR	T.D.2840	Dry

Falls County

Heflin et al	1-Kelsey	Basques	T.D.3003	Dry

Hill County

Eagle	1-Jones	BBB&C	T.D.1319	Dry

Hutchinson County—Panhandle

Skelly	2-Whittenburg	Whitley	2910–2944	65
McMan	3-Holmes	M&C	2721–2785	580
Phillips	1-Whittenburg	Whitley	2885–2942	600
Holmes	1-Smith	M&C	2722–2785	415
McIlroy	3-Smith	M&C	2825–2878	1100

Jack County

Jordan	1-Bloodworth	Evans	T.D. 810	Dry
Murchison-Fain	1-Rankin	Ash	T.D.2500	Dry

Limestone County

Foster et al	1-DeLong	Varela	T.D.2976	Dry
Morley	1-Head	Young	T.D.4160	Dry

Mitchell County

Mid-Kansas	1-Ellwood	SP	T.D.3768	Dry

Montague County

Texhoma	8-Rowland	Chambliss	1112–1120	130

Shackleford County

Rosier-Pendleton	4-Cook	ET RR	1242–1252	860
Hope	1-Davis	TP	.....	96
Milham	1-Clark	BAL	T.D.1018	Dry

Stephens County

Texas	12-Curry	TEL	3208–2133	1½M
Curry Pool	1-Sikes	TP	T.D.2225	Dry
Humble	1-Yoes	TP	T.D.2203	Dry
Federal	1-Gratz	TEL	T.D.3460	Dry

Upton County

Marland	1-Sanger	H&TC	2190–2229	75
Dixie	1-Burleson	Sec 100	2188–2229	25
Independent	1-Burleson	Sec 100	2087–2232	7
Marland	2-Burleson	Sec 100	2183–2230	20
Marland	3-Burleson	Sec 100	2111–2140	110
Republic	1-Baker	Sec 8	2185–2272	55

Wheeler County

MidWest Explo	2-Porter	H&GN	T.D.2360	Dry

Wichita County

Howell et al	1-Burnett	H&TB	T.D.1950	Dry
Texhoma et al	1-Waggoner	Poitevant	T.D.2504	Dry

Wilbarger County

Phillips	2-Waggoner	H&TC	2401–2407	24
Humble	5-Waggoner	H&TC	1881–1902	162
Phillips	3-Waggoner	H&TC	1901–1917	320

Young County

Nash et al	1-Werges	Mathis	2456–2474	20
Bridwell et al	1-Williams	Young	710– 712	15
Clark et al	3-Moore	TEL	1002	Dry

Completions in Oklahoma and Kansas, Week Ended May 22

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Initial Prod.
Magnolia	1	NEc SE 33-1-1E	2430–2440	337
Mid-Cont	2	SEc SW 15-2-3W	3120–3167	145
Merrick et al	1	SWc NE NE 8-3-2W	2721–2727	247
Amerada	26	NEc NW NW SE 20-5-1E	1440–1520	40
Magnolia	7	NEc SE NE 23-2-3W	T.D.3030	Dry
Merrick et al	2	NWc NE 27-2-2W	T.D.1759	Dry

Comanche County

Magnolia	3	SWc NE 30-2-9W	T.D.2475 OWD	Dry
Becket et al	3	NWc SE SW 3-3-10W	1338–1348	8

Creek County

Joemack	2	NEc SW NE 27-17-8	3121–3137	300
Bu-Vi-Bar	2	NWc SW NE 26-15-8	2445–2465	10
Lima	1	SWc NW NW 30-15-8	3302–3306	24M
Gypsy	1	CEL NE NE 1-18-11	2061–2088	75
Texas	21	NWc SW 29-14-10	2808–2840	10
Kilgore et al	1	SWc NE 1-18-9	2850	Dry
Sheridan	1	SWc NE NE 30-16-11	T.D.1325	Dry
Prairie	1	SEc NE 30-14-10	T.D.3453	Dry

Garfield County—Garber

Mid-Cont et al	40	NEc SE 13-22-4	2706–2709 OWD	1046
Roxana	6	NEc SW SW 18-22-3	3115–3128	3051
Roxana	7	SEc NW SW 18-22-3	3005–3047	4323
Sinclair	29	NWc SW NW 18-22-3	2698–2704	1825
Sinclair	32	NEc SW NW 18-22-3	2708–2728	4560
Healdton	32	SEc NW NE 24-22-4	T.D.4509	Dry

Garvin County

Jones	1	NWc SW 5-1-1E	T.D.3475	Dry

Grady County

Carter	3	CEL W½ NE SW 35-3-5W	1486–1506	17

Grant County

Register	1	NEc NW 8-27-8	T.D.3275 OWD	Dry

Hughes County—Papoose

Barnsdall	1	NWc NE SE 1-9-9E	2140–2172 OWD	15
Phillips	1	NEc SE 27-9-9	3389–3395	70
Independent	2	NWc SE NE 18-8-10	3365–3381	15
Phillips	3	SWc NE SE 27-9-9	T.D.3439	Dry

Jefferson County—Seay

Brown	2	C E½ NE NW 33-6-5W	1320–1332 OWD	30

Kay County—S. Braman

Comar	4	SWc NW SE 5-28-1W	2396–2397	160
Comar	3	NWc SW SE SW 5-28-1	3453–3485	2467
Comar	2	SEc NW 5-28-1	2378–2382	3015

Kay County

Ostot et al	2	SWc NW 16-27-1W	3446–3455	18M

Kay County—N. Braman

Wentz	1	SWc 16-29-1E	T.D.3444	Dry

Lincoln County

Gypsy	7	NEc SE 35-15-5	T.D.3450	Dry

Muskogee County

Slusher	1	SEc NE SE 21-14-17	T.D.1455	Dry

Okfuskee County

Barnsdall	2	SWc SE 3-12-11	2628–2642	450
Josey	10	CNL SW NW 33-12-11	2890–2901	250
Josey	12	NEc NW SW 33-12-11	2900–2935	300
Champlin	5	NWc SW NE 22-11-11	2592–2609	150
Champlin	5	NWc SW NE 22-11-11	2592–2609	150
Amerada	14	SWc NE NW 13-12-11	T.D.3449	Dry

Okmulgee County

Deaner	1	NEc 34-15-12	2609–2706	1½M
Hazlett et al	1	CWL SW SE 25-14-12	2738–2754	1½M
Elm	9	C W½ SE SE 13-14-14	1045–1113	25
Cossellmos	2	CEL W½ SE SW 5-14-15	518– 525	5
Simms	14	SEc SW NE SW 15-13-14	1629–1653	20
Smith	1	SEc NW SE 35-14-13	T.D.1456	Dry
Papoose	18	SW SW 11-14-14	T.D.1794	Dry
Misener	16	SW NW SW 16-14-14	T.D.1800	Dry

Osage County

Keener	10	CSL N½ S½ NE 15-29-10	1006–1040	25
Brown	10	NWc SE SE 15-29-11	975–1016	15
Winona	20	C SE 28-24-10	1370–1390	12
Gillespie-Grimes	7	SE NE SW 31-21-12	1360–1560	3
Pioneer	6	CEL W½ E½ NW 5-20-11	1691–1710	50
Berlin et al	10	NWc SW NW 24-29-10	T.D.1105	Dry
Continental et al	6	SEc SW SW SW 29-24-9	T.D.2696	Dry
Commercial Drlg	1	NWc SW 22-21-12	T.D.1510	Dry
S. S. Home	1	NWc NE 14-20-10	T.D.2756	Dry

Pawnee County

Minnehoma	1	SE SW SW 13-21-7E	2570–3582 OWD	175
Marland	1	SEc NW 33-20-5	3706–3737 OWD	762
Magnolia	4	NWc SE SW 9-20-6	3080–3098	107
Cortez	1	NWc SE 36-20-6	2748–2767	30

Payne County—Mehan Field

Company	Well No.	Location	Depth	Initial Prod.
Deep Rock	4	NEc NE 26-18-3E	3788–3793	60, 10
Deep Rock	1	SEc NE NE 27-18-3	4324–4342	400

Pontotoc County

Bryan et al	1	NEc NW NW 17-4-6E	1285–1293	2M

Seminole County

Continental	3	NWc SE SW 28-11-8	3520–3556	170
Plover	2	NEc SE SE 7-9-8	3496–3316	103
Mid-Cont	1	NEc NW 18-9-8	1765–1775	4M
Ramsey	1	NWc SE SE 30-8-8	T.D.3276 OWD	Dry
Ramsey	2	NWc SE SE 31-8-8	T.D.3338 OWD	Dry

Stephens County

Winkler et al	1	SWc SE SE SE 25-1-9W	1984–1989	10
Gamble et al	1	SWc SE SE 25-1-9W	1959–1968	15
Winkler-McQueen	1	SWc NE 28-1-8W	1652–1668	175
Beasley-Lane	1	SEc SW 6-1-8W	T.D.2509	Dry
Rust	1	NWc SE 9-1-8W	2345	Dry
Murphy	2	CEL SW SW 2-1-5W	T.D.1310	Dry
Inter-Ocean	3	CSL SE SW 32-1-8W	T.D.2260 OWD	Dry
Magnolia	1	NEc NW 21-2-8W	T.D.1477	Dry

Tulsa County

Holmes et al	1	NEc NW NW 23-19-10	1884–1895	30
Regal	7	NWc SW SE SE 36-19-11	T.D.2370	35
Holmes et al	2	SWc NE NW 22-19-11	T.D.2325	Dry
B. S. & B	17	SWc NE NW 16-18-13	T.D.2112	Dry
Craig et al	2	NWc 24-17-12	T.D.2326	Dry

Wagoner County

Hale Ford	3	CSL SE NW 36-16-17	925	Dry
Mays	1	NEc NW 15-19-15	1418–1430	5

KANSAS

Barton County

Herron	1	C SE SE NE 22-18-13W	T.D.4465	Dry

Butler County

Ramsey et al	1	C NW NW NW 14-23-7E	T.D.3130	Dry
Neeley	1	C SW SE SW 12-26-7	T.D.2865	Dry
Leighty-Martin	1	NEc Lot 21 19-26-8E	T.D.2811	Dry
Branson et al	2	C NE SE NE 5-27-6	T.D.3215 OWD	Dry
Empire	15	C NE NE NE 45-27-4	2550–2604	80
Federal	6	C E½ NE 33-27-7	2742–2763	110

Chase County

Denton et al	1	C SW SW SE 5-21-9	T.D.2530	Dry
Dingee et al	1	C NE NE NW 14-22-29	T.D.2530	Dry

Cowley County

SW Pet	11	NWc SE NE 6-31-6	2842–2860	30
Gypsy	9	SWc SE NW 24-32-4	2309–2349	135
Roth-Farout	1	C NW NE 15-32-5	T.D. 785	Dry
Marland	1	C SW SW NE 5-33-3	T.D.3582	Dry

Elk County

SW Gas	1	C SE SE 11-31-10	T.D.1452	Dry
Theta	1	C NE NE NE 27-31-10	1620–1633	30
Denman	1	C SW SE SW 36-31-10	1997–2017	½M

Greenwood County

Empire	6	C NE SE NW 6-22-10	2226–2257	240
Davis et al	15	C NW NW SE 12-22-10	2051–2137	460
Syndicate	3	C SW NE NW 12-22-10	2037–2128	300
Sinclair	39	C NE NE SW 20-22-10	2240–2305	200
Empire	12	C SE NW SE 11-22-11	1821–1883	260
Phillips	2	C SW NE NE 5-22-12	1880–1915	10
Prairie	1	NWc NE SE 7-27-13	T.D.1720	Dry
Prairie	4	NW SE 16-24-13	T.D.1905	Dry
McGinnis et al	3	C SW SE NW 30-24-11	1766–1787	300
Rhodes-Abel	4	SWc SE SW NE 16-24-13	1628–1656	15
Continental	2	C SE NE NE 23-26-9	2144–2189	25
Titus et al	1	C SE SE NW 28-22-11	T.D.2168	Dry
Conway et al	1	C NE NE SE 9-23-9	T.D.2585	Dry
Polhamus et al	1	C SE SE SW 32-24-11	T.D.1937	Dry
Hoy-Starkey	1	C SW NW NW 28-25-10	T.D.2202	Dry
White	2	C SW NW NE 35-25-10	T.D.2050	Dry

Lyon County

Miss Valley	1	C NW SE 25-20-11	T.D.2165	Dry
Marland	1	C NE NW NW 18-20-12	T.D.2435	Dry
Fisher et al	1	C SW NW SW 11-21-11	T.D.2182	Dry

Rice County

Prairie	2	SWc 35-20-6	T.D.3461	280

Russell County

Mid-West	19	C NW SW NW 8-12-15W	2914–3001	60

Woodson County

Peerless	2	CWL NE 23-26-14E	1208–1277	400
Peerless	2	CEL E½ SE NW 23-26-14	1209–1274	400
Peerless	3	CWL W½ SW NE 23-26-14	1203–1285	350
Kirk et al	1	C SW SE NW 6-25-14	T.D.1680	Dry

(Continued from page 55)

assume that nothing of importance will be discovered in Oklahoma the next five months or so, it can readily be seen that crude from the Panhandle will be badly needed to bolster up our declining production—and certainly the Panhandle cannot attain major status before that time, if it ever does.

"If the Panhandle is to reach a peak production of 100,000 barrels or more daily, it cannot do so with its present outlet facilities, as its output would necessarily depend upon the ability of the railroads to move out that amount of crude in tank cars, and no great oil field has been developed on a tank-car shipment basis. I have not yet heard that any trunk pipe line is to be built into the Panhandle field, and even when such an announcement does come, it will necessarily be a matter of several months before the line can be completed and placed in service. The same thing applies to extension of railroad facilities—they take time to build, even after the decision has been reached that they should be built.

"Difficulties to be expected in handling Panhandle crude through a long

pipe line will add materially to the expense of constructing these trunk lines, as heating plants will have to be installed at intervals, and pump stations will have to be placed closer together than in ordinary pipe line construction practice. It is more than 200 miles from the field to the nearest trunk line connection, so that the construction of a line will probably necessitate the expenditure of at least five million dollars. There are also the uncertainties connected with lime production and the many peculiar characteristics of the Panhandle producing area to act as a deterrent to pipe line construction until the field's future status can be more accurately gauged. Taking it altogether, my opinion is that we have nothing to worry about as far as the Panhandle is concerned for the next six months, at least."

No Sand at Burbank

ONE example of the uncertainty involved in the search for oil came to light during the past week when the Phillips Petroleum Co. apparently failed to find the sand in a well located on a tract bought at the last Osage sale in March. This well, known as No. 4, in the SEc NE of 2-27-5, is on a 160-acre lease for which the company paid $366,000. At last reports, it had been drilled to 3010 feet without finding the sand. It is a north offset to a well of the same company which came in Feb. 3 with initial production of 2440 barrels in sand from 2934 to 2944 feet.

Wewoka, which reached a peak of 34,860 barrels daily May 1, has been declining recently, and for the past week averaged 30,940 barrels a day, a loss of 2010 barrels as compared with the preceding week. There are now 12 wells producing in the deep sand, with one dead, and one of the producing wells making only 22 barrels a day on the pump. Water appeared during the past week in several wells that had been free of it up to that time, and they immediately started falling off in production. It is the general opinion among production men that this field will show a very rapid decline in the next few weeks. Production of the deep sand by wells for the past week was as follows:

Company	Well No.	Lease	Production
Amerada	1 & 3	Harjo	6,409
Magnolia	1	Harjo	22
Magnolia	3 & 5	Harjo	4,776
Magnolia	2	Harjo	dead
Magnolia	3	Franz	3,424
Homaokla	1	Carolina	1,760
Homaokla	2	Carolina	2,338
Ind.-Atlantic	1	Simon	717
Prod. & Ref.	1	Walker	1,977
W. R. Ramsey	4	Amos	1,066
Dixie	1	Garner	983

Total, 12 producing wells 23,472 barrels.

Another northern Oklahoma field entered the Wilcox sand class during the past week, and, as the discovery was made in an old producing field with characteristics similar to those of Tonwaka and other fields in that section, it is likely that another intensive Wilcox sand drilling campaign will result. This time it was in the old Blackwell field, and the well was the Polling & Denny No. 3 Case, in the NEc SE SW of 4-27-1W. This was formerly a gas well, having made 30 million cubic feet of gas in the Stalnaker sand at 2360 feet. This gas was mudded off, and the well drilled on down. It now is in the Wilcox from 3437 to 3443 feet, and at last reports was flowing 30 barrels of 40 degrees gravity oil an hour.

Marland Oil Co. No. 1 Webb, in Grant county, which caused a great deal of excitement a few weeks ago by making a Wilcox sand discovery in wildcat territory, apparently was only a flash in the pan, as its large initial flow was short-lived and it soon started making water. During the past week, it was plugged back four feet to depth of 4353 feet, and is now swabbing about 50 barrels of oil and 75 barrels of water daily.

Panhandle Producing 40,000 Bbls., Pipe Line Projects Rumored

TULSA, May 24.—The Texas Panhandle field is now producing between 35,000 and 40,000 barrels daily as a result of recent completions, and this output could be swelled considerably were it possible to handle the oil. Marland has started running oil through its new eight-inch welded line and will start immediate construction of an 18-mile extension to the north, carrying its line to a point beyond the Canadian River. This also will be an eight-inch welded line.

Rumors here are that Marland will start construction of a line from the Panhandle to Ponca City within the next three weeks, but this is denied by company officials. It is known, however, that the route has been surveyed and the line, when built, will be of welded construction. It is reported, also that the Prairie Pipe Line Co. will soon start construction of a line into the Panhandle, but officials state that is not contemplated for the immediate future. In the Hutchinson County field, Phillips Parks No. 2 Whittenburg, in southeast corner of Sec. 13 Block 5 is producing 1100 barrels natural and drilling ahead in pay from 2755 to 2849 feet. This is a west offset to the Canyon Oil Co. No. 3 Smith, which was reported last week making 7820 barrels initial, and is still flowing at the rate of 5100 barrels daily. This well recently made 106 barrels in a 30-minute gauge test.

Roxana Petroleum Corp. No. 2-A Smith, in the northeast corner, southeast, northwest of Sec. 14 Block Y, about a mile southwest of the Canyon well, is in the pay from 2857 to 2937 feet and making 1500 barrels natural at last reports. J. K. Hughes Developing Co., formerly Twin Six Oil Co., No. 5 Kingsland, in the northwest corner northeast, northwest, of Sec. 6, Block Y, was shot with 150 quarts from 2870 to 2915 feet and started off flowing 40 barrels an hour.

White Eagle No. 1 Johnson ranch, in Sec. 64, Block 47, about a mile south of the river, is making 1100 barrels after a 60-quart shot from 2699 to 2717 feet and is now drilling deeper. Gibson and McMillan No. 1 Kingsland, in the southwest corner, northwest, Sec. 6 Block B, four, got pay from 2877 to 2934 feet and does not look so good, swabbing 120 barrels of fluid, with 20 per cent water.

Currie Phillips No. 1 Smith, in northeast corner southeast of Sec. 14, Block Y, west offset to Lennix well, which came in April 24 for more than 5000 barrels daily, was shot with 660 quarts from 2900 to 3030 feet and started off flowing 295 barrels an hour. At last reports it was making 192 barrels an hour. In the Pampa district, Gray County, about 60 miles east of Amarillo, The Texas Co.'s No. 2 Saunders is in granite wash from 2555 to 2575 feet, making 5,000,000 feet of gas and a show of oil. This well is in Sec. 3 Block 1 Alexander Cain survey.

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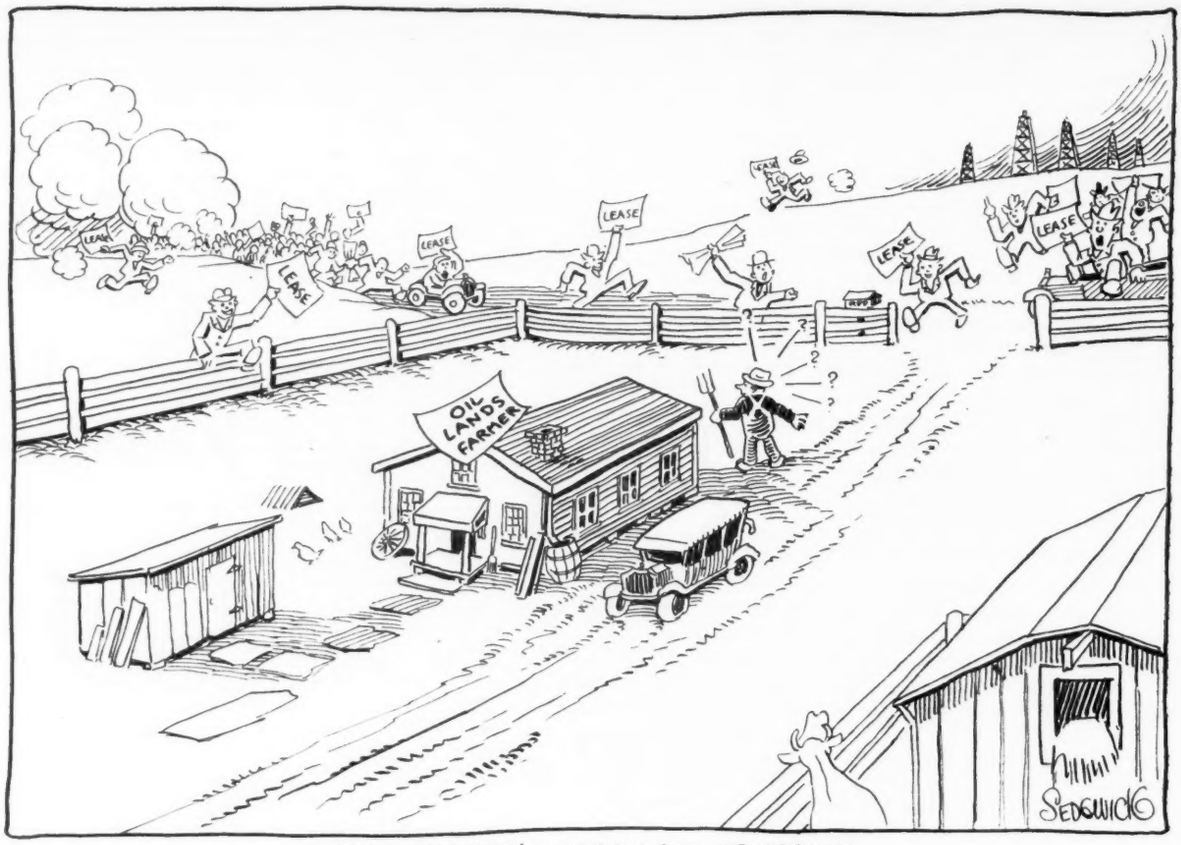


THE FARMER'S HARBINGER OF SPRING

We See By The Papers—

Conscious and unconscious humor concerning the oil industry from the press of the nation.

National Petroleum News

Some Day It May Flow

The industry goes "Ring Around the Rosey" according to the Amarillo Daily News when this well shoves oil up into the hole faster than it can be bailed out:

With the Badger oil well shoving oil up into the hole faster than it could be bailed out and its estimated production 300 barrels without a shot oil circles began circling faster yesterday afternoon when it was reported that the fluid was standing from 1500 to 1007 feet in the hole now at 2893.

First indications started in the form of a rumor which at first was denied, but later in the day the stock rose from $1.50 to $1.75 with $2 asked.

* * *

They Have Lots of Dough, Anyway

Extract from the Tulsa World telling of a trip through the Panhandle field of a group of Marland officials and New York financial men:

Coincident (with rumors of Marland-Atlantic consolidation) was the tour of Oklahoma and Texas oil fields of George Whitney, partner in J. P. Morgan & Co., W. C. Potter, Guaranty Trust Co., and C. F. Smithers, all prominent Wall street bakers.

The Editor Waxes Technical

Here's a discovery made by the Houston Press about refinery practice that will be news to the petroleum industry generally and which no doubt will come as a mighty jolt to the host of plant managements who have found paraffin content in their oils one of the drawbacks to refining:

Texas produces a majority of the paraffin containing oil for the entire world, the official pointed out, but most of the paraffin is used in the manufacture of gasoline. Thus the lubricating oil seldom contains the element.

* * *

The Omnipotent C. of C.

The town's boosters have made up their minds, according to the Alamosa, Colo., Courier:

There is so much enthusiasm about the recent discoveries of gas in the region adjacent to Alamosa that the Chamber of Commerce has taken the matter in hand to have the valley section developed as a gas and oil producing field, a committee having been named by President Herrick that will see to it that the work is done and that without further delay.

New Use for Salt Water

The Lufkin correspondent for the Houston Post-Dispatch developed a new theory of natural refinement of crude oil when a showing of gasoline was found in an East Texas well:

After more than two weeks of uninterrupted flow of gasoline into the water well of P. D. Kimmey near Huntington eight miles south of Lufkin it is now making 50 gallons of high grade gasoline daily. No one here has been able to make a very satisfactory explanation of its presence in the well.

Local oil men think that the drilling of an oil well near Huntington several years ago is responsible for the presence of gasoline in the water well. At a depth of 1000 feet a strong gas pressure was struck and after drilling deeper a vein of salt water was encountered that could not be cased off. The well was then abandoned and filled up. It is thought that the gas pressure is now driving the oil through fissures and that it is being refined as it passes through the salt water.

* * *

No Athletic Stations

The Kankakee, Ill., News tells about the Ozark Pipe Line Co. plans for a line through Illinois then says:

The Ozark Pipe Line Co. of St. Louis is surveying a line from Oklahoma to Hammond, Ind., which passes through Kankakee county . . . . .

There will be no pumping stations in Kankakee county which will jump from Chatsworth to Crete.

The Editor's Viewpoint

National Petroleum News

The Unending March of Progress

HARDLY any one in this world, let alone a busy refiner, has stopped long enough to attempt to measure the tremendous increased efficiency of the American petroleum refiner.

Walter Miller, manager of manufacturing for Marland, did a while ago and gave his observations to a meeting of petroleum technologists. It startled everyone. Mr. Miller climaxed his remarks by saying that a similar survey two years from now would make his figures small by comparison.

In the past five years, Mr. Miller estimates the refiner has so improved his operations, entirely disregarding the development of cracking, as to amount to a saving of two hundred million dollars a year in cash to the American public. Cracking is another story, the value of which he did not undertake to estimate.

Mr. Miller figured his savings from all the thousand and one details of better plant construction and operation, getting more heat here, cutting fuel there, increasing the speed of charging, etc., etc., etc., being all the little things that go on every day inside a refinery that few men ever stop to add up to a total.

A refinery these days is being constantly rebuilt, not only because of the wear and tear on equipment due to operating under greater temperatures and pressures but because of the steady improvement in methods which makes it necessary to be junking equipment every month if a refiner would keep anywhere near up with the procession.

No other branch of the oil industry, has had to face such a heart rending task and do it on less profit. No other branch can understand the extent of the refiner's task nor of his accomplishment, without keeping almost daily in touch with a given refinery and see it change and grow day in and day out.

Some day the rest of the oil industry, and maybe the public, will vote a gold medal to the refiners of America for a big job, well attacked but never done.—W. C. P.

Thanks Due For Information

THE thanks of the natural gasoline industry are due, we think, to the Roxana Petroleum Corp. and to Colonel George A. Burrell and R. P. Mase for the disclosures of recent important developments in two branches of the natural gasoline manufacturing art.

In the case of the Roxana, thanks also are due to S. C. Carney, research engineer of that company as well. It was the work of Mr. Carney that resulted in the development of a successful refrigeration process for natural gasoline plants which seems likely greatly to increase the efficiency of oil absorption plants and which may be the means of putting the older compression plants, much less expensive to build and operate, back into the picture.

However, it was the willingness of the Roxana executives to pass along to the whole industry the results of Mr. Carney's important work that made disclosure of this development for the benefit of all, possible. A description of Mr. Carney's improvement was published on page 33 of the May 5 issue of National Petroleum News.

In like manner, a useful improvement in the operation of charcoal absorption plants was given out by the Burrell Oil & Gas Co., of which Colonel Burrell is the head. This improvement consists in a method of partially reactivating the charcoal from the absorbers periodically at small cost, thereby greatly increasing its absorptive capacity. With Colonel Burrell's consent Mr. Mase who was active in perfecting the development, gave out full and exact information on the method of carrying on this reactivation and the equipment that has been designed to do it. The process was described on page 67 of the May 19 issue of National Petroleum News.

It seems that the companies responsible for these developments have lost nothing by disclosing them and the industry at large has gained much—P. T.

Teach the Newcomers

SOMETIMES one wonders if the marketing end of the oil business, doesn't spend too much thought and talk on individual acts of price cutting, getting the other man's cut price tank wagon tickets or copies of his sales agreements—and then cussing him out.

Could not more be accomplished for the industry and the individual oil man himself, by a search under the surface for the fundamental conditions which may be out of line and which produces the price cutting?

Isn't the chief cause of most price cutting ignorance of sound business principles? Does the man who cuts a price know how much profit he is giving away?

Does he know just what price cuts net him a loss?

Men learn largely by their own experience. They can be helped much, however, by the experience of others. The longer the average man is in business the more he realizes that he is in business primarily to make a profit. The more he plans every operation to make a profit the quicker he abandons an operation that promises to be unprofitable.

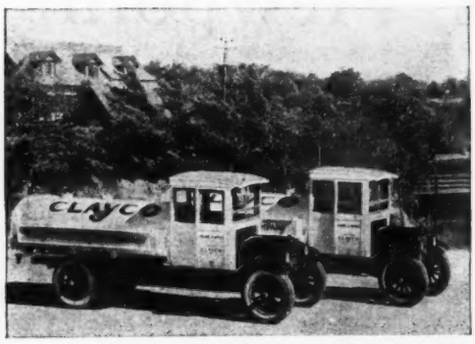
Many newcomers are oil marketers. They are newcomers to the oil business and they are frequently newcomers to the task of managing any business. Many of them do not have their accounting in such shape that they can tell whether they are making a profit or a loss on certain operations Many of them do not understand the great hazard of trying to build up a business volume by taking on business at a loss.

The men who need this doctrine of sound marketing, built on a conservative plan for profit, which is the result of a good accounting system, are many times the smaller marketers who attend the state oil association meetings in the largest number.

For these men, we suggest to the excellent state associations, that programs for state meetings be planned to instill in the marketer sound business ideas and good accounting. It is education on how to do business the right way that is needed the most, rather than exposition of the results of the wrong way.

Every marketer we have ever come in contact with is most anxious to learn the right way. He is always eager for new ideas and quick to adopt them. Give him the diet that will build in him the greatest strength and there will be far less price cutting.—W. C. P.

The Truck Tank of tomorrow is here today!



"I Have Been Using Columbian Truck Tanks for Twelve Years"

"You are possibly wondering why it is that I go on using Columbian Truck Tanks year after year, placing an order for a new tank from time to time and never saying a word to you about them."

And below we quote further from a letter written by Mr. O. E. Skipwith, formerly agent for the Clayco Gasoline Company, now the Sims Oil & Refining Company of Dallas, Texas.

"I have been using Columbian Truck Tanks for 12 years. The first truck tank that I bought from the Columbian twelve years ago, is as good today as the day it was delivered to me. The three point support and partition mounting that you folks use in the construction of your tanks is a great thing, especially when you stop to consider how long it adds to the life of both truck and tank. At the present time I have 17 Columbian Truck Tanks in service and I am well pleased with all of these tanks."

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LUBRICATION

"Friction, Lubrication, Fats and Oils", by Emil P. Dieterichs, is an inexpensive little book that contains valuable information on the manufacture of lubricating oils, solid lubricants and greases, together with numerous formulas; modes of testing oils and the application of lubricants.

Send us your check for $1.50 and we will mail a copy of it to you.

National Petroleum News
802 Caxton Bldg., Cleveland, Ohio

Has 23 Years Experience In Oil Business

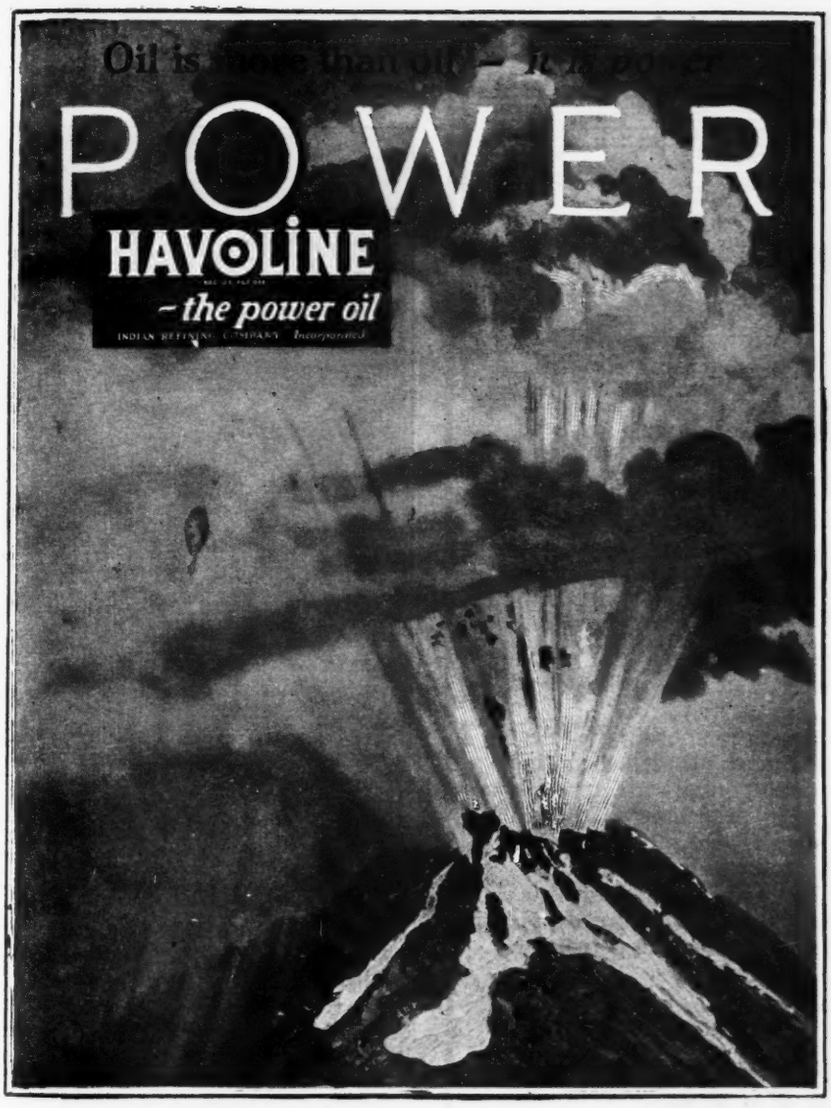
William B. Sutton, head of the land and operating southwestern headquarters of the Vacuum Oil Co., at Houston.

WILLIAM B. SUTTON, who several months ago became head of the Vacuum Oil Co.'s land and operating headquarters in the southwest, with headquarters at Houston, has had 23 years of experience in the petroleum industry. His first contact with oil was in the shallow territory of Kansas, where in 1903 he became field manager of the Chautauqua County Oil & Gas Co., living at Peru, Kan. Later he became vice-president of that company, making his headquarters at Kansas City, Kan., from 1907 to 1917, when his firm was absorbed by the Prairie Oil & Gas Co.

Mr. Sutton entered the land department of the Prairie in July, 1917, going to Eastland in December of the same year to head that company's land operations in Texas. There Mr. Sutton remained throughout the Ranger district excitement, being transferred to Tulsa as assistant superintendent of the land department in October, 1923. It was from that position that Mr. Sutton went to the Vacuum at Houston, in December, 1925.

Although born at Utica, New York, Feb. 26, 1875, Mr. Sutton grew up under middle western influences. His parents moved to Russell county, Kansas, in 1887, where he lived on a ranch until they moved to Kansas City, Kansas, in 1897. Mr. Sutton was graduated from Kansas University in 1899 and from the Kansas City School of Law in 1902. He is a member of the Kansas chapter of Phi Beta Kappa fraternity.

LYLE, MINN.—Elite Oil Co. recently painted its storage tanks with aluminum paint.



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A FEW simple facts explain the phenomenal success which local oil companies have scored with the Havoline franchise—

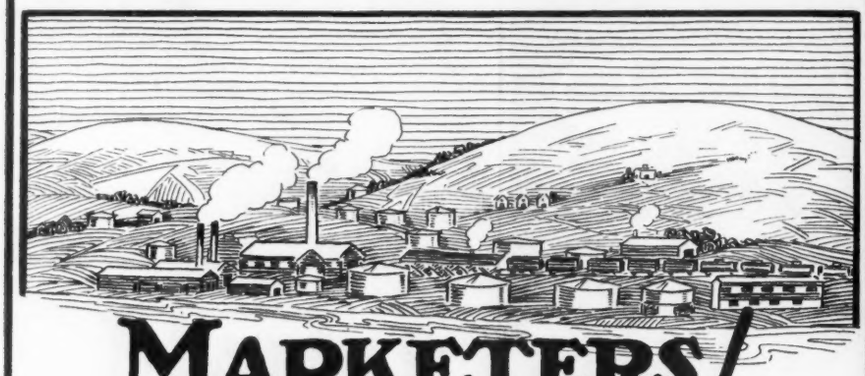
Havoline gets off to a running start because people everywhere know the Havoline name and Havoline quality. They see Havoline advertising regularly; they know it is power oil.

And Havoline holds the business it wins because any man's car can prove power. Once a motorist feels it he's glad to come back for it.

You, too, can take this famous national brand in your territory (if not yet assigned) and make it your own. Keep your own oil, of course, if you wish. Havoline will not interfere with it. On the contrary, Havoline signs at your stations will bring new customers for everything you sell.

Exclusive rights and protected territory are offered—on long-term contract—plus real sales and advertising backing. We don't take back the business after you build it up. Havoline means new, added business that you own and control. *Write or wire.*

Indian Refining Co., Inc.
Lawrenceville, Ill.



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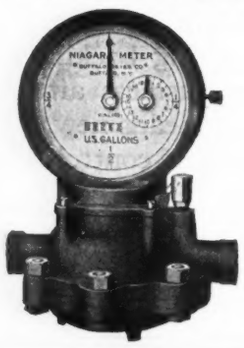

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New General Manager for New York Oil

Emil H. Steiger, elected general manager, New York Oil Company

CASPER, WYO., May 22.—Emil H. Steiger, of Oshkosh, Wis., was elected general manager of the New York Oil Co., in addition to being president of the company. Mr. Steiger became president about two years ago. He is a prominent manufacturer and is substantially interested in many companies.

Minal E. Young, for a number of years general manager and treasurer of the company, has resigned and will devote his time to personal interests, among which is the proposed gas line from Amarillo to Denver, still in the organization stage.

Maxwell W. Winter resigned as secretary of the company and Mrs. Harriet C. Curtis, widow of Frank Curtis, founder of the company, was elected secretary and treasurer.

Directors were re-elected, with the exception of John P. Herrick, of Olean, N. Y., who asked to be relieved of further responsibility. In his stead R. S. Hutchinson, of Oshkosh, associate of Mr. Steiger, was elected.

Will Install Cracking Plant

NEW YORK.—Reorganization of the properties and business of the Interstate Gasoline Co., with headquarters at 347 Madison Ave., is reported.

Nicholas H. Colwell and Joseph P. Tumulty are the primary receivers in equity receivership proceedings and the former is also president of the Interstate company. The reorganization plan, it is understood, includes the installation of a new cracking plant at the company's refinery in Texas.

Jones and Teagle Say Modern Refining Ends Need of Large Crude Stocks

CLEVELAND, May 22.

MODERN refining methods make unnecessary the carrying of large stocks of crude oil above ground to insure a supply of gasoline, in the opinion of George H. Jones, chairman, and Walter C. Teagle, president, of the Standard Oil Co., of New Jersey. Their opinion is expressed in a letter to their stockholders, sent with the annual financial report.

With increased recovery of gasoline from crude oil by improved refining methods a smaller supply of crude oil offers better insurance against a possible gasoline shortage than the large stocks that have been carried above ground in recent years, they argue. Capital invested in crude oil stocks is unproductive, the chief executives of the world's largest petroleum corporation point out, besides the fact that interest, evaporation and insurance charges eat up about 10 per cent of the earnings of the industry.

Investigation Is Timely

BECAUSE of changed conditions the investigation by the Federal Oil Conservation Board was timely and should help clarify public thought on the question of natural resources, particularly petroleum, they believe. In the letter they size up not only the operations of their own company during 1925 but some of the fundamentals operating in the whole industry. Their letter follows in part:

"The production of crude oil in the United States in 1925 again made a new high record—764,000,000 bbls. In 1900 the country's total production was slightly less than 64,000,000 bbls. In the first quarter of the century it increased, therefore, more than 1,000%. The production in 1925 was just double that of as recent a year as 1919.

"The average price of crude oil at the wells for the entire United States production during 1925 was $1.68 per barrel, as compared with $1.43 for 1924. This increase made possible improvement earnings for most of the producers of crude oil and a consequent appreciation in the value of stocks in storage. Published reports indicate that generally speaking, the principal divisions—production, transporting, refining and marketing—operated at a profit.

"The increased earnings, while gratifying, are not as yet commensurate with the speculative character of the business. The finding of oil is uncertain, and as the oil business is constantly changing, no stable basis yet exists for the accurate determination of depletion, depreciation and obsolescence. It is these undeterminable factors which render the business hazardous, and justify a higher return on the capital employed than the average return from other basic industries.

Oil Industry Investment

"ASIDE from the multiplication of facilities arising from intense competition, the capital investment in the industry—amounting to some $9,500,000,000—may be said to be the result of the world's requirements of petroleum products for essential purposes; in fact, to a great extent the direct result of the demand for motor fuels. This has been financed in part through the introduction of new capital, and also in great part through the reinvestment of surplus earnings, a policy which has been generally followed by many of the larger companies to insure future supplies.

"Total stocks of crude and finished products above ground in the United States at the end of last year totaled 550,000,000 barrels. The capital invested in these stocks and in the facilities required for their accumulation is unproductive. Carrying charges for interest, evaporation and insurance are a heavy burden, representing probably 10 per cent of the total earnings of the industry during the last few years. Prior to the development of modern refining methods, large reserve stocks above ground were necessary as an insurance against a temporary shortage of gasoline. With the advance in refinery methods, reserve stocks of crude may be less than they are today, and insurance against a shortage of gasoline greater.

May Clear Public Thought

"IN view of these conditions, the time was opportune for a survey of the needs and possibilities of a national program of petroleum conservation, and the president, in naming four members of his cabinet to conduct this inquiry, specifically directed their attention to the economic and national aspects of the overproduction of crude oil. It is to be hoped that their report will clarify public thought on the question of conservation of natural resources.

"It is accepted that conservation from the national standpoint is undertaken in the interest of the public, to be reflected by lower prices. It is not so generally appreciated that 'lower prices' mean lower average prices over the life of the resource and that this, as applied to the conservation of petroleum, means that overproduction which forces prices to a low level may carry with it the penalty at some future date of underproduction with prices reaching an unnecessarily high level. Conservation is ordinarily brought to the public attention when a scarcity is foreseen or prices are abnormally high. Neither of these conditions exists today, as petroleum products are both abundant and cheap. The lack of these obvious signs of a diminishing natural resource makes it necessary that general appreciation of the economics of conservation should be more than superficial. Much benefit should result from such an impartial study of the petroleum question, not only to the industry itself, but also to the public.

Increases Crude Resources

"THE dissolution in 1911 left the company with a daily crude oil production of 10,000 barrels and a daily refinery requirement of over 100,000 barrels. The policy of the Standard Oil Co. of New Jersey since its organization in 1882 has been to produce crude and also to be in the crude oil market at all times as a buyer. Trade conditions and the growth of the petroleum business since the dissolution made it advisable for the company to increase the resources of crude under its own control, not only in the United States, but more particularly in foreign countries, where no open market for crude existed, and where it had previously established extensive marketing organizations.

"As the outcome of this program, the company produced last year slightly more than half of its crude requirements, or 71,924,683 barrels. Its gross domestic production was 41,117,621 barrels, supplied by the Carter Oil Co., operating in Oklahoma, Kansas and Wyoming; the Standard Oil Co. of Louisiana, in Arkansas and Louisiana; the Humble Oil & Refining Co., in Texas, Arkansas and Oklahoma; the Hope Construction & Refining Co., in Pennsylvania, West Virginia and Ohio, and the East Ohio Producing & Refining Co., in Ohio. Its gross foreign production totaled 30,807,062 barrels, which was obtained through affiliated companies operating in Peru, Colombia, Mexico, Rumania, Poland, Canada and the Dutch East Indies.

Develop Foreign Production

"VERY substantial expenditures over a long period of time are required to develop a commercial production of crude oil in foreign fields. The company has invested in recent years in such exploration and development large amounts of capital most of which have not yet reached a productive stage. The development of commercial production in Colombia, financed by a subsidiary, and the construction of a pipe line to tidewater, financed by American and European investors, represented a total outlay of more than $45,000,000 be-

fore exports of oil were possible. Large sums have been invested in other foreign fields. These expenditures were met by the allocation to this purpose of a substantial part of each year's earnings. It is the opinion of the board that these investments will prove remunerative.

"During 1925, 139,000,000 barrels of crude were processed. An average of 317,764 barrels of crude per day was run in the domestic plants, situated on the Atlantic seaboard and the Gulf coast; an average of 63,503 barrels per day in the refineries operated in Canada, South America, Mexico and Europe. The crude run embraced 36 grades of varying characteristics.

Natural Gasoline Production

"A VALUABLE contribution to the company's gasoline supply comes from the operation of plants for the extraction of gasoline from gas produced from oil and gas wells. Natural gasoline as produced is too volatile for use as motor fuel, but lends itself to blending with refinery gasoline. Gasoline recovery plants have been installed generally in the producing districts where the company or its subsidiaries operate. The company produced last year a total of 2,200,000 barrels of natural gasoline.

"This company, through seven subsidiary gas companies, is an important factor in the production, transportation, distribution and sale of natural gas in West Virginia, Pennsylvania and Ohio. During the past year, these subsidiaries supplied natural gas direct to 547,893 domestic consumers and 756 industrial consumers, some of these companies sold gas at wholesale to other distributing companies, who in turn supplied 202,680 domestic consumers. The total volume of gas delivered last year was 89,062,758,000 cubic feet, the equivalent in heat value of 4,453,138 tons of coal.

Gathering System Operated

"THE Oklahoma Pipe Line Co. operates a gathering system in Oklahoma and Kansas, and a trunk line system connecting with the Standard Pipe Line Co. This latter company operates a gathering system in Arkansas and Louisiana and a trunk line system to a terminal on the Mississippi River. The Tuscarora Oil Co., Ltd., operates a trunk line system extending across Pennsylvania and into New Jersey, with its terminal at Bayway. The Humble Pipe Line Co. operates a gathering system and trunk lines from the various fields in Texas to terminals on the Gulf—one at Baytown on the Houston Ship Channel, and the other at Texas City. These pipe line systems, comprising 2,156 miles of main trunk line, during the past year transported and delivered 86,338,652 barrels of crude.

"Construction in 1925 included a 10-inch line built by the Standard Pipe Line Co., 95 miles in length, extending from the Smackover field in Arkansas to the Mississippi river, and an 8-inch line 193 miles in length built by the Humble Pipe Line Co., from its trunk line west to the Big Lake field in Reagan county, Tex.

"At the close of the year, the company owned and operated under the American flag 35 tank steamers of 429,000 tons, and 47 vessels of 440,000 tons were owned and operated by foreign subsidiaries. Of the 16 new vessels contracted for abroad for foreign subsidiaries, only six remained to be delivered."

The Standard of New Jersey last year netted $111,231,355, the largest amount in its history excepting only the phenomenal year 1920. Gross earnings amounted to $1,122,882,611, an increase over 1924 but, according to Messrs. Jones and Teagle, profits were not commensurate with the speculative character of the petroleum business.

After all charges and reserves and dividends on the preferred stock, net profits were equivalent to $4.72 a share on the 20,588,241 shares of $25 common stock outstanding at the end of the year. In 1924 the company netted $3.30 a share on the common stock.

Common stock dividends amounted to $20,395,911, or $1 a share on the average amount of stock outstanding during the year; while taxes paid by the Standard of New Jersey, and its subsidiaries amounted to $26,485,791, or $1.30 in taxes for each $1.00 received in dividends by the common stockholders.

THE net earnings of the parent and affiliated companies were equal to 10.45 per cent on the $1,063,903,806 net assets. Net earnings and rate on the common stock since the dissolution have been:

Year	Earnings	Rate
1925	$111,231,355	*18.88%
1924	67,018,467	*13.2%
1923	42,297,242	*8.4%
1922	32,387,231	*6.5%
1921	20,078,568	†20.3%
1920	154,135,888	156.0%
1919	76,434,786	77.7%
1918	57,918,658	58.9%
1917	80,765,941	82.1%
1916	70,792,059	71.9%
1915	60,777,243	61.8%
1914	31,457,634	31.9%
1913	45,691,869	46.4%
1912	35,107,887	35.6%

*On $25 stock after 400 per cent stock dividend.
†On $25 stock before stock dividend.

Standard of New Jersey, subsidiary and affiliated companies last year produced 71,924,683 barrels of crude, of which 41,117,621 barrels were produced in the United States and 30,807,062 barrels in foreign countries; Mexico, Canada, Colombia, Peru, Rumania, Poland, and the Dutch East Indies. This production was only a little more than half of the crude run through the refineries of the companies in this and other countries. Crude runs approximated 139,000,000 barrels.

Daily average charges at refineries on the Atlantic and Gulf coasts of the

Standard of New Jersey consolidated income account for 1925

Total gross earnings from operations		$1,122,682,610.90
Net income from miscellaneous sources		22,837,893.42
		$1,145,520,504.32
Less: costs, operating charges, general expenses		972,693,627.48
		$ 172,826,876.84
Less: Reserve for income taxes on 1925 earnings		13,188,617.98
		$ 159,638,258.86
Less: depreciation and depletion		48,406,903.85
Consolidated net earnings		$ 111,231,355.01

Standard of New Jersey consolidated balance sheet as of Dec 31, 1925

ASSETS

Real estate, plant, equipment		$ 863,682,073.68
Less: depreciation, depletion		349,369,763.90
Net property valuation		$ 514,312,309.78
Investments:		
Stocks of corporation not consolidated herein		108,361,044.28
Government securities and other marketable investments		50,753,422.54
Miscellaneous property		5,680,232.21
Total investments		$ 164,794,699.03
Inventories of merchandise		294,231,374.49
Accounts receivable		384,055,958.98
Cash on hand and in banks		11,776,029.19
Total current assets		$ 690,063,362.61
Total assets		$1,369,170,371.42

LIABILITIES

Capital Stock:		
Preferred		$ 199,972,900.00
Common		514,706,025.00
		$ 714,678,925.00
Accounts payable		275,062,077.04
Reserved for income taxes		16,022,712.24
Insurance reserves		14,181,775.21
		$ 305,266,564.49
Surplus, Dec. 31, 1924		278,260,965.78
Less: Income tax payments and other adjustments applicable to prior years		5,873,344.86
		$ 272,387,620.92
Add: Net earnings for the year 1925		111,231,355.01
Less: Dividends paid		
On Common stock	20,395,911.00	
On preferred stock	13,998,103.00	34,394,694.00
		$ 76,837,261.01
Surplus: Dec. 31, 1925		349,224,881.93
Total liabilities		$1,369,170,371.42

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Deepwater Oil Refineries
The Independent Jobber's Refiner HOUSTON-TEXAS

United States average 317,764 barrels daily. Daily average runs at foreign refineries amounted to 63,503 barrels. Foreign plants are situated in Canada, Mexico, South America, and Europe. Thirty-six grades of crude were processed.

$246,827,643 Oil Inventory

THE balance sheet of Dec. 31, 1925, shows inventories of $294,231,374. Of that sum Messrs. Jones and Teagle said, crude and refined oils represented $246,827,643. The value at which crude and refined oils were carried at the end of 1924 was not segregated in the 1924 report, nor did the company announce the amount as it did this year.

National gas subsidiaries in Ohio, Pennsylvania and West Virginia delivered 89,062,758 thousand cubic feet of natural gas to domestic and industrial consumers, equivalent in heat value to 1,453,138 tons of coal.

On Dec. 31 the Standard of New Jersey had 28,236 common stockholders and 35,627 preferred stockholders. On Feb. 24, 1926, it distributed 884,002 shares of common stock to 16,358 employes. Employes now constitute one third of the stockholders.

Comparisons between the balance sheet of Dec. 31, 1925, and those at the end of previous years cannot well be made because of changes in the report plan. However, a few are possible.

Property valuation after depreciation and depletion increased from $474,960,207 to $514,312,310 during 1925, but values of refining, marketing and other properties were not detailed as in previous year. Current assets on Dec. 31 totaled $690,063,363 on Dec. 31 and current liabilities $305,266,564, leaving working capital of $384,796,799. Cash on hand at $11,776,029 was an increase of only $650,000.

The New and Better Gasoline

Reprinted from "The Texaco Star"

NOW it can be told.

In military parlance, the movement has been executed according to plan and our first objective has been reached. At the time of this publication every tank at our sales stations has been thoroughly cleaned and refilled with a new and better gasoline.

Naturally, a movement of such nation-wide scope could not be successfully concealed; and so it was that The National Petroleum News in an article, entitled "Trade Awaits News of Texaco Gasoline Program," anticipated our official announcement by about a week. With a journalistic enterprise that is commendable (except for the aforementioned but forgivable factor of publishing somewhat in advance of our announcement), this journal dug out some of the facts, with no assistance from us.

One activity they noted and reported as highly interesting and important because of what it stands for. They said: "In a few instances The Texas Company has loaded gasoline from overstocked branch plants into tank cars and moved it back to the refinery in order to replace it before May 1 with a different material." That is true—and it speaks eloquently.

Consider this: The Texaco gasoline sold by us before the first of May was second to none in quality, and yet we sent some of it back to the refinery to make room for the new gasoline! Analyze that and you get two implications: First, that the new gasoline must be appreciably superior to an already highly regarded product and hence superior to any motor fuel in the field—and that is so; Second, what a picture it gives of the jealous care for quality—and keeping faith with the public. For we might have taken any one of three courses:

(a) Sell the remaining product at a lower price to move it.

(b) Mix it with the new product.

(c) Ship it back to the refinery.

Although more costly, we chose the last, indicating our faith in the new product and our knowledge of its performance.

The reader unfamiliar with the details might ask at this juncture:

"Is there anything put in this gas?"

"Is it a new invention?"

"Why is it better?"

Answering these questions in their order affords a reasonable delineation of the facts.

There is nothing put into this new gasoline in the sense of adding any chemicals, coal tar products, or mixtures of "dopes" of any kind. The new and better Texaco gasoline is pure unadulterated gasoline—free from poisons.

Nor is it strictly speaking a new invention, because it is definitely a product of the Holmes-Manley Process, which, as was shown in Mr. R. C. Holmes' articles in the *Star* last month, has been developed and perfected over years of research and experiment.

What has happened is this:

Our refining department announced some time ago that through perfected methods of control, they were producing certain quantities of a superior grade of gasoline—so superior that they hoped in time to turn all our facilities over to the manufacture of this product.

That time has arrived. And now the new and better Texaco gasoline is being made in commercial quantities on a grand scale. Over two million barrels (about six weeks' supply) are now on hand; all our stations are stocked; all Texaco pumps are selling it; and it is now our established grade.

In answering the third question—"Why is it better?"—we need not indulge in generalities. We need only to present the facts.

The reader will understand that when practically all of our gasoline was "straight run," or the natural yield from crudes refined by the ordinary method of distillation in use a few years ago, it was extremely desirable that the distillation specifications permit of as large a yield as possible under the conditions in order to provide enough gasoline to meet the requirements.

And it can be said of those who had to do with the making and adoption of the U. S. Navy specifications that they met the situation in a very satisfactory way and there can be no criticism of the government specification as it stands. It will be realized, however, that a gasoline can be too heavy or too light to meet the exact requirements from the standpoint of the most efficient and satisfactory operation of motors.

Our new gasoline is the result of a large number of experiments and tests, carefully and thoroughly made, to determine on a product which would generally be the most satisfactory under all conditions for motor fuel; and having determined this, we have at the same time perfected our pressure stilling and other refining processes to a point where we are now able to put all of our production into this new product.

This method of manufacture produces and saves a larger percentage of the lighter and more volatile fractions which are not obtained, or are lost, in other methods. The presence of these fractions and the carefully balanced distillation throughout give the product the easy starting, quick and maximum acceleration, and, at the same time, the power and smooth operation of the motor that is so satisfactory. One reason for this is that this gasoline vaporizes rather than atomizes. In other words, it forms a dry gas, permitting of perfect combustion and minimizing crank case dilution, dilution of the oil in the crank case being most severe with gasolines which do not entirely vaporize and are pushed down by the cylinder rings into the crankcase.

A comparison of the distillation range of our stocks now on hand with the U. S. Government Specifications is as follows:

	U. S. Gov't Specifications	New Texaco Average Tests
Initial	131°	89°
20%	221°	187°
50%	284°	260°
90%	392°	355°
End	437°	396°

Those familiar with gasoline specifications will note the low initial point, the close range of distillation, and the low end point.

Our methods of manufacture and our close and accurate control will insure uniformity of the product. The motorist is assured of the same high quality week in and week out and from city to city and state to state. We can say to the tourist: "Your carburetor knows no state lines."

Manila Cordage Specifications Depend On Tests Being Worked Out

HOUSTON, May 20

FINAL specifications in the oil Field Standardization program covering manila cordage are not expected to be ready for the approval of the board of directors of the American Petroleum Institute before the next annual meeting at Tulsa, it is announced by C. C. Scharpenberg, national chairman of the committee having in charge the standardization of both manila cordage and wire lines.

Tests are now being conducted, Mr. Scharpenberg says, which should be of great assistance in the making of cordage specifications and they will be discussed at the mid-year meeting of the Standardization committees in Colorado Springs, June 15, 16, and 17. It is expected these tests can be completed by the next annual meeting. If so, they can be incorporated in final specifications that may be approved at that time.

Mr. Schorpenberg, assistant production manager of the Standard Oil Co. (California) at Bakersfield, says that the committee has followed similar procedure on manila rope as on wire lines. The work of his committee with regard to wire lines has been reported in detail in a separate article, appearing on page 57 of the May 12, 1926, issue of National Petroleum News.

In a letter dealing with the manila cordage section of his committee's work Mr. Scharpenberg calls attention to the fact that one size of bull rope is recommended as standard; namely, 2½-inch by 105 feet, and that definite recommendations are made on the form of groove in tug rims and bull wheels, also form of groove for sheaves, for all sizes of cordage.

Sizes and Groove Form

STANDARD sizes and form of groove are set out as follows:

1. 2½-inch bull rope shall be made standard.

2. The included angle of the tug rim and bull wheel groove shall be preferably 60° but in no case greater than 80°; depth of groove shall be not less than 2⅛ inch thick; and the groove in the bottom shall be made ½-inch radius.

3. No standard shall be approved for a crown pulley having a combination groove for both manila and wire lines.

4. The standard groove for manila drilling cable shall be made for a 2¼ inch cable, with groove diameter of 2½ inches, groove depth of 2½ inches and included angle of 30°.

5. The groove in the derrick line sheave shall be made for 1¼ inch manila rope, with ⅛ inch tolerance, groove depth of 1½ inches and included angle of 30°.

6. For sheaves for any other size manila drill lines and other manila lines, the diameter of the groove shall be equal to the nominal line diameter, plus the permitted tolerance in diameter of line, the depth of the groove to be equal to 1⅛ times the diameter of the line.

7. Catheads shall be made of wear resisting material, properly heat treated to prevent grooving; the diameter shall be not less than 10 inches.

Special attention is directed to recommended practices to be observed to obtain maximum life for manila cordage, as follows:

Recommended Usage for Cordage

1. **Storage of Rope:**—All rope stored should be in a dry and well ventilated warehouse, and kept as cool as possible. Rope should be so arranged that a free circulation of air may be had at all times, and it must be kept dry so that it will not mildew. It should not be stored longer than necessary and never longer than one hot season. It may be placed on wooden floors providing same are well ventilated underneath, but it would be better if it were placed on racks. If stored in warehouse with concrete floor the rope should always be placed so that there will be an air space between rope and floor.

2. **Size of Sheaves:**—They should be as large in diameter as possible. The larger they are in diameter the longer the rope will last. Data covering sheave sizes can be had from many mechanical engineers' handbooks.

3. **Size of Catheads:**—It is recommended that the minimum size of catheads be 10 inches and that they be made of a wear resisting material, that grooving by wear will be minimized.

4. **Groove in Sheaves Recommended For Use With Manila Cordage:**—The depth of groove to be 1⅛ times nominal diameter of rope. The bottom of the groove to be made to the diameter of rope plus its tolerance, as shown in tables contained herein; included angle 30°.

5. **Method of Splicing and Putting Eyes in Bull-rope:**—Much improvement can be made in present practice. This will be considered and reported on at a later time.

6. **Splicing of Manila Cordage to Wire Line:**—Manufacturers will at later date submit illustrations and cover best practice.

The following specifications are set up as tentative:

Drilling Cables

A. **Construction:**—Drilling cables shall be made up of three right laid three-strand ropes, left laid in one cable, extremely hard.

B. **Sizes:**—Sizes, with plus tolerance, shall be as follows:

Nominal Diameter	Tolerance in Diameter
1⅞	+ 3/16" — 0"
2	+ 3/16" — 0"
2⅛	+ 3/16" — 0"
2¼	+ ¼" — 0"
2½	+ 5/16" — 0"

C. **Weight:**—The weight shall be as

Table 1—Gross Weight and Minimum Breaking Strength for Standard Rope, Medium Lay

Approximate Diameter Inches	Circum. inches	Approx. ft. per coil	Approx. gross weight per coil lbs.	Max. net wt. per ft. of rope lbs.	Min. feet per lb.	Min. breaking stength lbs.	200D²
1/16 (6 yarns)	½	3000	45	.016	63.3	590	7.0
¼ (6 yarns)	¾	2750	55	.021	47.5	700	12.5
5/16 (9 yarns)	1	2250	65	.030	32.8	1200	19.5
⅜ (12 yarns)	1⅛	1620	66	.043	23.2	1450	28.2
7/16 (15 yarns)	1¼	1200	70	.057	17.1	1750	38.2
15/32 (18 yarns)	1⅜	1200	80	.067	14.8	2100	44.0
½ (21 yarns)	1½	1200	90	.078	12.8	2450	50.0
9/16	1¾	1200	126	.108	9.22	3150	63.4
⅝	2	1200	160	.138	7.15	4000	78.2
¾	2¼	1200	198	.170	5.86	4900	112.5
13/16	2½	1200	254	.201	4.97	5900	132.0
⅞	2¾	1200	270	.232	4.32	7000	153.0
1	3	1200	324	.278	3.58	8200	200.
1 1/16	3¼	1200	378	.324	3.08	9500	226.
1⅛	3½	1200	432	.371	2.69	11000	252.
1¼	3¾	1200	504	.433	2.31	12500	312.
1 5/16	4	1200	576	.494	2.02	14200	345.
1⅜	4¼	1200	648	.555	1.80	16000	378.
1 7/16	4½	1200	720	.617	1.61	17500	450.
1½	4¾	1200	810	.695	1.43	19500	490.
1⅝	5	1200	900	.772	1.29	21500	528.
1¾	5½	1200	1080	.926	1.07	25500	612.
2	6	1200	1296	1.11	.938	30000	800.
2 1/16	6½	1200	1500	1.29	.809	34000	850.
2¼	7	1200	1764	1.51	.691	38500	1012.
2 5/16	7½	1200	2016	1.73	.603	43500	1250.
2⅜	8	1200	2304	1.97	.529	49000	1380.
2 7/16	8½	1200	2580	2.22	.472	55000	1660.
2½	9	1200	2916	2.50	.400	61000	1800.
2 9/16	9½	1200	3240	2.78	.375	67000	1950.
2⅝	10	1200	3600	3.09	.338	73000	2120.
2 11/16	10½	1200	4000	3.41	.306	79600	2190.
2¾	11	1200	4400	3.75	.279	86400	2450.
2 13/16	11½	1200	4800	4.10	.255	93600	2630.
2¾	12	1200	5200	4.45	.235	101000	2812.

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follows, with a plus or minus tolerance of 5 per cent:

Nominal Size	1⅞	2	2⅛	2¼	2½
Approximate Gross Weight Pounds per ft.	1.30	1.50	1.70	1.90	2.30
Approximate Net Weight per foot Under Strain of 200D² Lbs.	1.20	1.40	1.60	1.80	2.15
Lbs.	700	800	900	1010	1250
200D²	700	800	900	1010	1250

D. **Lubrication:**—Drilling cables shall be thoroughly impregnated with a compound of such nature as to provide maximum practicable protection under all conditions.

E. **Lengths:**—Lengths of drilling cables shall be ordered in multiples of 200. Lengths of cracker to be ordered 300 feet or longer in multiples of 50 feet.

Bull and Calf Ropes

A. **Construction:**—Bull and calf ropes shall be 3 strand medium lay, right lay rope.

B. **Sizes:**—Size with plus tolerances shall be as follows:

Nominal Diameter	Tolerance in Diameter
2½	+ ¼" — 0"

C. **Lengths:**—Lengths shall be 105 feet.

D. **Weight and Strength:**—Weight shall be as follows, with a plus or minus tolerance of 7.5 per cent, and breaking strength shall be equal to or in excess of the following:

Nominal Diameter Inches	2½
Approximate Gross Weight Lbs. per foot	1.80
Approximate Net Weight Lbs. Per Foot Under Strain, 200D²	1.67
Breaking Str. Lbs.	40,000

E. **Lubrication:**—Oil of a good cordage grade shall be used in such quantities as shall constitute not less than 10 per cent nor more than 18 per cent of the weight of the rope. No substance shall be added for the purpose of loading or weighting the rope.

General Use Rope

A. **Construction:**—Construction shall be 3 strand, medium right lay.

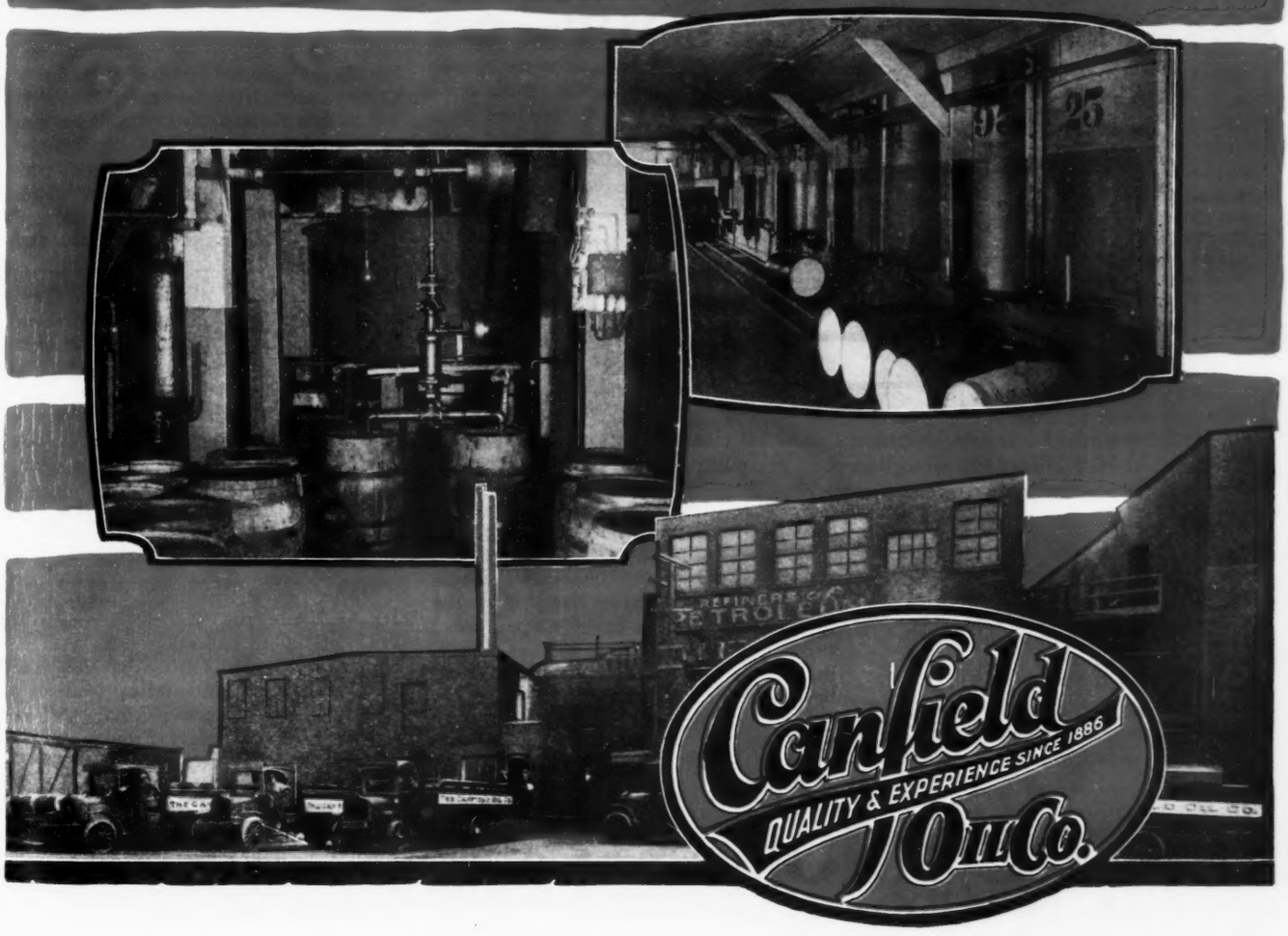
B. **Sizes:**—Sizes shall be as shown in Table I with plus or minus tolerances as follows:

Nominal Circum.	Tolerance in Circum.
¾" to 1¾"	+ or — ⅛"
2" to 2¾"	+ or — 3/16"
3" to 3¾"	+ or — ¼"
4" to 5"	+ or — 5/16"
5¼" to 7"	+ or — ⅜"
7½" to 9"	+ or — ½"
9½" and up	+ or — ⅝"

C. **Weight and Strength:**—Weight shall not exceed, and breaking strength must be equal to, or in excess of, the amounts specified in Table I.

HILLSBORO, KAN.—G. F. Friesen has bought one-half interest in the Home Service Station, located here, which was formerly owned and operated by B. A. Goertz.

No. 1 Plant Cleveland



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- Castor Machinery Oils
- Belt Dressing
- Soluble Oils
- Cutting Oils
- Viscous Neutrals
- Non-Viscous Neutrals
- Red Oils
- Filtered Cylinder Stocks
- Steam Refined Cylinder Stocks
- Petrolatums
- P. O. C. Gear Compound
- Zero Gear Compound
- High Pressure Lubricants
- Cup Greases
- Fibre and Sponge Grease
- Gear Shield
- Axle Grease
- Auto Soap
- Mine Car Greases
- Graphite Grease
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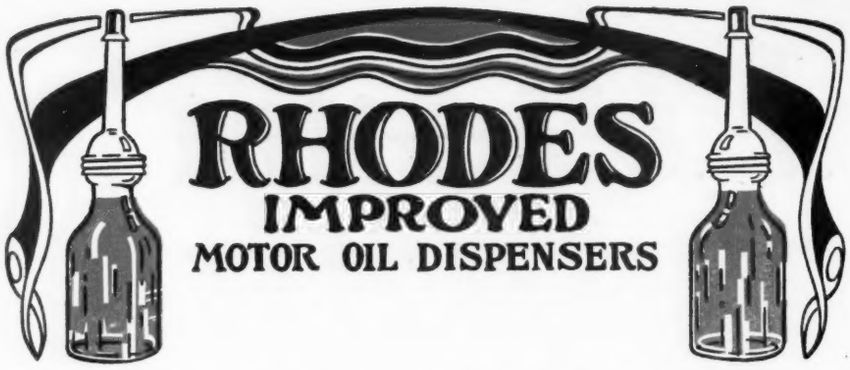

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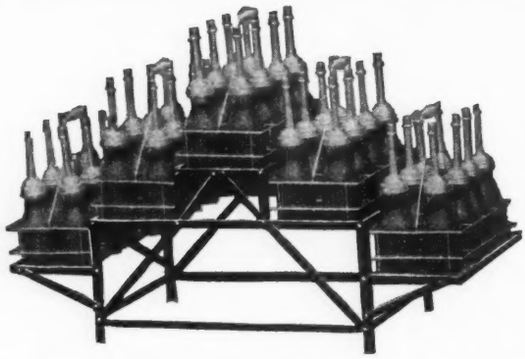

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NATIONAL PETROLEUM NEWS
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Bureau of Mines Films Finding Wide Use

WASHINGTON, D. C., May 21.—Educational motion picture films of the oil industry, produced by the U. S. Bureau of Mines in co-operation with various oil companies, are being loaned free of charge to anyone desiring to borrow them, and are finding extensive use by oil companies, engineering societies and oil conventions, according to M. F. Leopold, safety engineer with the bureau who supervises the production of the films.

A post card list for ready reference has been printed by the bureau's experimental station at Pittsburgh, Pa., which lists the film by title and the name of company who helped to produce it. Another list has been printed which gives a description of the film. These lists may be obtained free by writing the bureau at Pittsburgh.

A few months ago the bureau erected an entire replica of the original Drake well in Pennsylvania and staged several scenes incident to the bringing in of the first oil well. In addition a scene of burning oil rigs was filmed, as well as other scenes on safe and dangerous practices in the industry.

Films that have been produced in connection with the oil industry, and the company who co-operated with the bureau of mines in producing them include:

"Story of Petroleum," "Mexico and Its Oil" and the "World Struggle for Oil," all in co-operation with the Sinclair Consolidated Oil Corp., New York City; "Story of a Gasoline Motor" by Continental Motors Corp; "When Wages Stop, or Safety First in the Petroleum Industry," by Amlalgamated Oil Co., Associated Oil Co., Midway Gas Co., Pacific Oil Co., Southern California Gas Co., Standard Oil Co. of California, Shell Co., and Union Oil Co. of California.

"Story of Gasoline" by Standard Oil Co. of Indiana; "Live and Let Live" by Humble Oil & Refining Co., Gulf Production Co. and Magnolia Petroleum Co.; "Story of a Rotary-drilled Oil Well" by Humble Oil & Refining Co.; three films entitled "Through Oil Lands of Europe and Africa," in co-operation with the Pan American Petroleum & Transport Co., one of which is devoted to Germany, France, Spain, Morocco and Algeria, one to Italy, Hungary, The Danube, and Roumania, and the third to Poland, Greece and Egypt; and two recent films, one of which is the story of lubricating oil and the other the story of a Mexican gusher.

NEWARK, N. Y.—The Ben Woods Oil Co. has installed six one gallon pumps for farmers with 550 gallon tanks; also twelve 10-gallon visible pumps. The company is 18 months old. Ben Woods is president.

Methods of Saving Gas in Oklahoma Fields Discussed by Operator

TULSA, May 22

"FIELD Development and Operating Economies" was the title of a paper read before the twenty-first annual convention of the Natural Gas Association of America on May 18 by Robert W. Hendee, president of the Kingwood Pipe Line Co., Okmulgee.

Mr. Hendee prefaced that part of his paper here presented by a short discussion of the reasons why it is imperative that even the companies operating in the region of prolific gas fields do everything they can to prevent waste of gas and utilize every foot in a manner that will give maximum results. In Oklahoma and other states of huge gas supply, operators are trying to profit by the experiences of Eastern states, where conservation was preached only after the supply ceased to be adequate.

He outlined several of the reasons for conserving gas, besides the primary one of maintaining the life of the gas industry. There are, he said, many factories, cement mills, glass plants and other industries located where they are in the Mid-Continent solely because of a supply of fuel gas. Their life depends upon the maintenance of that supply. The cities of this region are largely dependent upon gas for heating and the trouble which the consumer will have if his supply fails is worthy of consideration.

On the subject of improved field practices and economies, Mr. Hendee said, in part:

"Volumes could be written on the wastes which attend the old method of developing new fields, but probably the most horrible example was the Cushing pool, wherein conservative estimates place the gas loss as high as 100,000,000 cubic feet per day. Many wells of 30,000,000 to 40,000,000 were allowed to blow open for days. The sole idea of the operators was to produce the oil, which was either in the sand with the gas or in a sand just below it. In most instances the pressure and volume of the gas were so great that drilling to the oil bearing sand was impossible until the wells were allowed to exhaust their gas production into the air, sufficient to permit the resumption of drilling.

"Of course, in fields where prolific gas sands occur above the oil sand, the proper procedure would be to set the casing and produce the gas. However, in many fields there is no outlet for the gas at the time the field is brought in, so the gas should be 'mudded off' and retained in the sand for some future time and the wells then drilled deeper for the oil. Many of the companies are appreciating the value of the gas and are taking care to seal off the gas strata as they drill. There are several instances where oil companies have shut in gas wells, knowing that oil laid beneath, willing to make use of the gas and receive the revenue therefrom, until the gas had played out.

"The rotary method is by far the fastest and most successful in drilling through sands, clays, soft shales, etc. The rotary systems, using the mud-laden fluid, muds off each water and gas strata as it proceeds due to the wobbling and pounding of the drill pipe against the unlined sides of the hole. That is, the mud is cemented against the walls of the bored hole by the revolving drill pipe.

"It is easily seen that this method of drilling is not the best for wildcatting, due to the mudding off of the sands. It is generally conceded that cable tools are best adapted to wildcatting; also for drilling-in, bailing, testing and finishing a well.

A Pioneer Advisor

"AT this point it is time to pay tribute to the Bureau of Mines, which, even as far back as the Cushing 'blow-out,' had men in the field to show the operators how to drill through the above mentioned gas sand by drilling with a hole full of mud-laden fluid. Before then, and since then, they have conducted experiments, run tests and issued pamplets dealing with every phase of waste and the methods for presenting it. They have men in the field or at the call of any operator who will show him the proper method of drilling, mudding, cementing or what not in connection with his drilling operations. Besides they have been invaluable to the transportation companies.

"Another cause for terrible losses of gas is due to the fact that proper precautions are not taken in setting the casing. This is especially true where the formations are loose and good seats are not to be found, as in Louisiana and Texas and in some places in Oklahoma. The gas often escapes around the casing, loosens the ground rapidly and sometimes gains sufficient volume to blow the casing from the hole and to continue blowing until huge craters are formed.

"There might have been excuses for these 'wild wells' when they were the first one in a district, but such troubles are overcome now by cementing the casing after a good seat has been established on the cap rock. There are several methods of placing the cement on the outside of the casing such as the 'one-plug,' 'dump bailer' and other methods, but it is not necessary to go into them here. Suffice it to say that cementing the casing is one of the great strides forward in preserving our oil and gas resources.

Care of the Well

"EVEN though every precaution is taken to shut in the gas wells of today, and although they are apparently very tight, the time will come when casing troubles will result and water will creep into the gas sand.

"Some of the companies are applying protective pipepaint to every foot of pipe which goes into the hole and probably there will be a time when all companies will protect their pipe in some manner, looking to lengthening the life of the string. Also, samples of the various waters which are passed through are taken and analyzed for future reference.

"In many of the older wells water becomes a hindrance. As mentioned above, this will probably happen to present day wells equipped according to best practice. As long as the rock pressure is great enough most of the water will be held back in the sand or will be carried off with the gas. But when the rock pressure gets low the water starts to take possession.

"The oldest method of ridding the well of the water is by opening the well to the atmosphere and allowing both water and gas to gush forth. This, in itself, is a waste, and, although it may temporarily help matters, it is only a matter of time before the well will be dead. Many wells have been blown every day in order to get the water out of their systems.

"There are several other methods of eliminating water from gas wells which are well known, but no set rule will apply to all wells. Each well has its own peculiarities and is a study in itself. For instance, one method might work on one well, or in one locality, but would be useless in another district. There are certain ideas and rules which are used in the East, while others are used in the Mid-Continent area. They are of equal value as long as they accomplish their purpose.

"With the deeper drilling which has been the custom the last few years, comes the difficulty of handling the high pressure wells. In order to get away from the frequent blowouts of gates and fittings, most of these wells are shut in with hydraulic fittings, which will safely stand the high pressure.

Prevention of Freezing

"WITH this high rock pressure and in many cases low deliveries, the matter of handling the gas without having gates freeze took considerable experimenting. But the difficulties have been solved with heaters and so-

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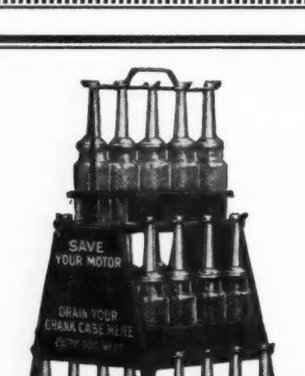

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called regulating by-passes. The line from the well to the meter setting is usually 1800 lbs. line pipe or 2-inch 2500 lbs. tubing. If a two-inch gate valve is cracked to handle the right amount of gas desired, the result will be freezing off, breaking open and freezing with the accompanying painted chart on the meter. So the method of regulating the flow of gas is to open wide the master and side gates on the well and close the line gate above mentioned. Around this gate is built up two or three by-passes of from one-inch down to one-half inch pipe with high pressure brass stops in the lines. The object is, of course, that one of these by-passes will handle the amount of gas normally passing, with the stop probably nearly wide open. On some wells of extremely high pressure two such by-passes are used, making two cuts, and, with the addition of heaters no trouble is experienced with freezing control gates.

Transportation

"AFTER the wells have been drilled and shut in, and reasonable care has been taken to keep the gas in the hole until it is needed, it is up to the gas company to transport it to the various consumers. There are just as many ways of laying pipe and maintaining it as there are in drilling, and, although leakage is tremendous in some cases of drilling, many millions of feet have been flown into the air through carelessness on the part of the gas pipe line companies. How many lines have been screwed together and laid on top of the ground exposed to all weather with never a thought again about it until some break occurs which demands the attention of the owner!

The Bureau of Mines has run leakage tests lately which give astonishing results. On many lines on which they worked, merely tightening the packing in gate valves made the line fairly tight. They worked out various leakage figures, but one which should put all pipe line companies on their guard against leaks, even to the smallest, is the leakage from a one-fourth-inch hole. In a year's time, with the pressure at 300 pounds, a one-fourth-inch hole will allow 154,100,000 feet of gas to pass into the air. This gas at ten cents per thousand, would equal a loss of $15,000. Figures such as these should change the minds of many pipe line companies who believe they will make exactly as much money by installing poor second-hand equipment and not caring how it is put in.

Line Lengths Increasing

"THE distance gas must be transported is steadily increasing. The increase in the length of the transmission lines increases the amount of leakage due to the additional number of collars, couplings, or welds and also due to the additional pressure necessary to transport the gas the greater distance.

"Within the past year a line was laid which attracted considerable attention by the careful and exact manner in which it was laid. This was 16-inch line, approximately 35 miles long. Before operations were begun the line was sounded for rock and the blue prints marked accordingly. The water from suspicious looking streams was tested and where detrimental to steel pipe, so marked. In crossing all such streams later on, the line was securely enclosed in cement. Every foot of the line was painted with a protecting coat besides the outside coat of enamel. At every place where it was expected there would be request for a tap later on, a nipple of suitable size was welded on the outside of the pipe but not tapped through. This idea eliminates one of the worst sources of leaks-saddles. All such nipples were easily located later on by makers along the pipe line. This line cost more to install than one just 'laid,' but it will outlast three lines not painted, cemented and properly buried. It might be said that the test pressure held up on this line for three days with only a five pound pressure drop.

"Under the head of 'Transportation' comes the subject of 'Measurement' which might be a paper in itself. Gas measurement is rightly called the 'scales and cash register of any gas company.' According to the ruling of the Oklahoma Corporation Commission, 'All gas transmitted by any utility shall be measured accurately by proper apparatus prior to entering the pipe line and upon its exit therefrom, and all gas consumed for light, heat or power in connection with its transmission, shall be measured accurately in order that the 'lost and unaccounted for' in transmission may be determined."

"Those gas companies whose desire it is to make every foot gas earn its own way, are following this ruling to a letter and going it one better in some instances. Each well is individually measured at the well. Sometimes eight to ten wells are then tied into a feeder or gathering line and it in turn empties into a main line. At the latter point another meter is set so as to segregate each individual group of wells. At any point where a main line enters another main line or at the junction of two or three lines, meters are set. In this way a very accurate record is kept of the amount of gas entering and leaving each small system. This provides an excellent way in which to divide a large system into units with superintendents in charge of units and each vieing with the other to keep the leakage low in his district.

Accounting for All Gas

"GAS sold for drilling and field purposes is measured through either a positive or orifice meter gas for domestic users along the line is reduced in pressure by a regulator and measured by a regular iron body meter; gas for fuel at gasoline plants and compressor stations is also measured by the majority of companies and gas that is used in company houses is measured, and,

while not paid for by the employee, is accounted for in the leakage statement.

"Many changes have been made in the science of measuring the gas and several changes have taken place in the field. Besides the use of the welded meter run or setting now comes the use of welding in tying together the quarter-inch connections from the flange to the gauge. This makes a very neat looking job in addition to its value in moving the fittings quickly and easily from one set-up to another. Welding also provides a two-inch orifice setting for measurement to drilling wells. The whole thing, welded as a unit, may easily be loaded on a truck and taken from place to place intact.

"Gas sold to drilling wells by the meter has been one of the greatest means in overcoming great wastes of gas. Where the sale was made formerly at a flat rate of so much a day it did not matter to the operators how badly their lines leaked, nor how much gas was wasted in the boiler by the fan burner and in the forge and for flambeaux. But with gas on a metered rate the lines are now tight and the majority of operators ask for low pressure on their lines as a result of the invention of low pressure burners which can generate the desired steam pressure with as low as four or eight ounce gas.

"Late practice in compressor stations shows a trend away from the large units to more of the smaller type. Gas, by nature, is so migratory that it is a very expensive installation to set up several of the large units and then find no gas there to compress. However, the large unit will always have its place at vital points in the main line transmission system.

"More than likely all of the improved methods herein are known to the gas men of the older eastern districts, but it has been the purpose of this paper to show that all concerned in the handling of the great natural resources in the Mid-Continent area are using every known method of conservation and where one is not known, are devising one. Why? Because 'Natural gas has never been equalled by any man-made product.'"

Buys Interest in Marketing Company

GYPSUM, KAN.—C. B. Arnett, president of the Gypsum Oil Co., with general offices here, and associates, purchased the interest of L. W. Andrews in the Herrington Oil Co., Herrington, Kan., on May 10. The new company incorporated under the name of the Herrington Oil Co., Mr. Arnett becoming president and manager.

Guy Funk will remain with the company as vice president. The new company will own and operate the Gypsum company.

MONTEVIDEO, MINN.—Charles J. Anderson Oil Co. is adding two 15,000 gallon storage tanks to its bulk station.

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Oil Patents Issued Recently

Production

Method and Means for Perforating Well Casings.—Sidney W. Mims, Los Angeles, Cal. Filed Mar. 3, 1924. No. 1,582,184.

Tubing Catcher.—George D. Watson, Torrance, Cal. Filed Aug. 29, 1925. No. 1,582,200.

Sucker-Rod Hanger.—George H. Prout, Los Angeles, Cal. Filed Feb. 13, 1924. No. 1,582,224.

Well-Drilling Tool.—Edward K. Lane, Ventura, Cal. Filed Sept. 19, 1922. No. 1,582,283.

Roller-Bits Drilling Tool.—Carl Russell Brutus, Denver, Colo., assignor to William V. Seifert, Denver. Filed Dec. 8, 1923. No. 1,582,332.

Safety Hook.—Walter A. O'Bannon, Tulsa. Filed Dec. 12, 1925. No. 1,582,345.

Dehydrator for Petroleum Emulsions.—Edwin F. Hurst, Brea, Cal. Filed Sept. 27, 1924. No. 1,582,404.

Oiler for Derricks.—Nathaniel A. Riggin, Oilfields, Cal. Filed Dec. 16, 1924. No. 1,582,432.

Walking-Beam and Sucker-Rod Connection for Deep-Well Pumps.—Glenn A. Hart, Bell, Cal., assignor to Clayton A. Musselwhite, Los Angeles. Filed July 13, 1925. No. 1,582,465.

Fishing Tool.—John M. Sauls, Wortham, Tex. Filed Jan. 28, 1926. No. 1,582,485.

Vacuum Flow Tank and Gas Separator.—Oren B. Riddle, Tulsa, Okla. Filed Feb. 13, 1925. No. 1,582,540.

Well-Drilling Bit.—Guy T. Pryor, Long Beach, Cal. Filed Jan. 5, 1924. No. 1,582,686.

Sucker-Rod—Tillman Jones Artesia, Cal. Filed Nov. 15, 1924. No. 1,582,757.

Polish-Rod Support.—Leonard Loop, Tulsa. Filed Oct. 6, 1925. No. 1,582,767.

Combined Casing Head and Snuffer.—Paul Arbon, Tulsa. Filed June 4, 1924. No. 1,582,238.

Refining

Apparatus for Distilling Hydrocarbons.—Norton F. W. Hazeldine, Los Angeles, Cal. Filed May 9, 1922. No. 1,580,372.

Process of Desulfurizing Petroleum Oils.—James B. Rather, Brooklyn, N. Y., assignor to Standard Oil Co. of N. Y. Filed May 9, 1923. No. 1,580,531.

Distillation of Crude Petroleum.—Edgar Milton Clark, N. Y., assignor to Standard Development Co. Filed July 3, 1919. No. 1,582,123.

Preparing Castor Machine Oils.—Leland L. Rebber, Los Angeles, assignor to Union Oil Co. of Cal. Filed May 9, 1922. No. 1,582,227.

Preparing Soluble Oils.—De Ralph Frinzell, Los Angeles, and Bert Allen Stagner, Berkeley, Cal., assignors to Union Oil Co. of Cal. Filed Apr. 1, 1922. No. 1,582,257.

Castor Machine Oils.—De Ralph Frinzell, Los Angeles, assignor to Union Oil Co. of Cal. Filed May 9, 1922. No. 1,582,258.

Apparatus for Hydrocarbon-Oil-Cracking Operations.—Kenneth V. King, Berkeley, Cal., assignor to Standard Oil Co., of Cal. Filed May 6, 1925. No. 1,582,407.

Apparatus for Treating Hydrocarbon Oils.—Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Co. Filed Apr. 16, 1917. No. 1,582,585.

Dephlegmator.—Gustav Egloff and Harry P. Benner, Chicago, Ill., assignors to Universal Oil Products Co. Filed May 2, 1921. No. 1,582,588.

Process for Obtaining a Light Hydrocarbon.—William Landes, Long Beach, Cal. Filed May 19, 1924. No. 1,582,764.

Natural Gasoline

Method and Apparatus for Controlling Operations of Solvent-Recovery Plants.—George G. Oberfell, Tulsa, Okla. Filed Apr. 18, 1925. No. 1,580,157.

Miscellaneous

Method of Recovering a Metallic Halide from Hydrocarbon Sludges.—Philip S. Danner, Point Richmond, Cal., assignor to Standard Oil Co., San Francisco, Cal. Filed May 19, 1925. No. 1,582,131.

Lignite-Distillation Apparatus.—John E. Neumaier, Dayton, Ohio, assignor to The Lignite Pressed Coal Co., Dayton, Ohio. Filed Feb. 1, 1922. No. 1,582,297.

Motor Fuel.—Yasujuro Nikaido, Rossford, Ohio. Filed July 9, 1925. No. 1,582,420.

Distilling Oven.—Oskar Lasche, deceased, late of Berlin-Charlottenburg, Germany, by Fritz Lasche, executor, Berlin-Charlottenburg, of Germany, and Carl Geissen, Berlin Schoneberg, Germany, assignors to Kohlenveredlung, G. m. b. H., Berlin, Germany. Filed Nov. 15, 1923. No. 1,582,650.

Tank Wagon.—Frank R. Filter, Watertown, Mass., assignor to Standard Oil Co. of New York, N. Y. Filed June 2, 1921. No. 1,582,869.

Oil Tank.—Clifton A. Glass, Kansas City, Mo. Filed Mar. 28, 1924. No. 1,580,194.

Closure for Tanks.—Alexander Boynton, San Antonio, Tex. Filed Apr. 9, 1924. No. 1,580,229.

Penetrating Oil and Lubricant.—Howard Norman Copthorne, Winnetka, Ill. Filed June 5, 1924. No. 1,580,233.

Heat Insulation for Containers.—Lester E. Cover, Pittsburgh, Pa., assignor to Armstrong Cork Co., Pittsburgh. Filed Oct. 9, 1924. No. 1,580,413.

Oil-Settling Tank.—Otto A. Peters, Wichita Falls, Tex. Filed Apr. 8, 1924. No. 1,580,791.

Process for Dehydrating Emulsions.—William Cameron, Suez, Egypt, assignor to Simplex Refining Co., San Francisco, Cal. Filed Nov. 15, 1920. No. 1,580,956.

Discharge Outlet for Tank Cars.—John J. McBride, Bayonne, N. J., assignor to American Car and Foundry Co., N. Y. Filed Sept. 9, 1921. No. 1,579,223.

Tank-Car-Dome Closure.—John J. McBride, Bayonne, N. J., assignor to American Car and Foundry Co., N. P. Filed Oct. 29, 1921. No. 1,579,224.

Tank-Valve Mechanism.—John J. McBride, Bayonne, N. J., assignor to American Car and Foundry Co., N. C. Filed June 15, 1922. No. 1,579,225.

Discharge-Outlet Valve.—Victor R. Willoughby, Ridgewood, N. J., assignor to American Car and Foundry Co., N. Y. Filed Apr. 21, 1922. No. 1,579,267.

Tank-Dome Closure.—Victor Willoughby, Ridgewood, N. J., assignor to American Car and Foundry Co., N. Y. Filed Apr. 27, 1925. No. 1,579,270.

Manufacture of Hydrogen by the partial Liquefaction of Gaseous Mixtures.—George Claude, Paris, France, assignor to Lazote Inc., a Corporation of Delaware. Filed Jan. 7, 1922. No. 1,579,348.

Barrel Rack.—George Bell and William E. Kirk, Dalhart, Tex. Filed Sept. 26, 1924. No. 1,579,627.

Explosive Fuel Mixture and Method of Making the Same.—Joseph E. Babb, Pittsburgh, Pa., assignor to Waverly Oil Works Co., Pittsburgh. Filed Dec. 15, 1924. No. 1,579,801.

Explosive Fuel Mixture and Method of Making the Same.—Joseph E. Babb, Pittsburgh, Pa., assignor to Waverly Oil Works Co., Pittbsurgh. Filed Feb. 14, 1925. No. 1,579,802.

Fuel Mixture for Internal-Combustion Engines.—Joseph E. Babb, Pittsburgh, Pa., assignor to Waverly Oil Works Co., Pittsburgh. Filed Apr. 22, 1925. No. 1,579,803.

Joint Between Wells Separating Two Gaseous or Liquid Fluids under Pressure.—Torkild Valdemar Hemmingsen, Copenhagen, Denmark. Filed Oct. 19, 1925. No. 1,577,968.

CLARKS, NEB.—J. H. Pollard Oil Co. is adding another storage tank and installing a battery station to handle increased business. All equipment of the company is being painted yellow, harmonizing with the golden rod, which is its motto.

HOUSTON, TEX.—The Roxana Petroleum Corp. moved its Houston offices from the First National Bank Bldg. to the 21st floor of the Houston Post-Dispatch Bldg., May 1, reports C. F. Gross, office manager.

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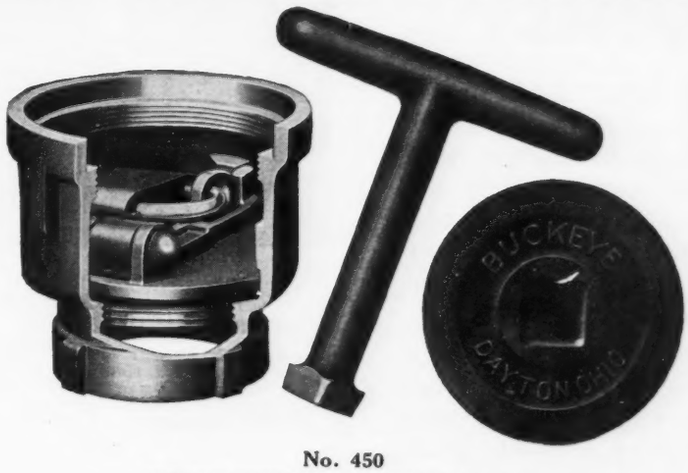


No. 450
FLUSH TYPE FILL BOX AND CAP

This new device is installed by embedding it in the cement drive directly over the underground storage tank, making it possible to insert a gauge stick and measure the gasoline in the tank.

The body is made of cast iron. Both caps are made of brass and a locking arm which provides a means of locking the opening is securely riveted to the inside cap so there is no possibility of losing it.

Gaskets under both caps make the Fill Box and Cap absolutely water tight. This new product is furnished complete with the exception of the lock and can be ordered either with or without the inside locking cap.

Buckeye Iron & Brass Works

356 E. Third St. **Dayton, Ohio**

Manufacturers of Quality Brass Goods since 1860

Mail this Now!

BUCKEYE

BUCKEYE IRON & BRASS WORKS,
356 E. Third St., Dayton, Ohio

Please send me further information and prices for Buckeye Service Station Equipment.

Name.....

Address.....

Products that Satisfy

Satisfied Customers are the life of your business— ***and there is nothing that satisfies like real quality, at the right price.***

Humble Products "repeat" because their quality is right. Each one of them—and there is one for each lubrication need—has been carefully designed and prepared, and thoroughly tested to see that it meets the most rigid requirements.

Our line is complete, and our refinery facilities are such that we can take care of your needs at all times — making prompt shipments, in any quantity you may desire—a carload or a shipload—by rail or water, to any point on the globe.

Wire or write for samples and prices.

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

Humble Oil & Refining Co.

Houston, Texas
"Zero Cold Test Oils"
Producers—Pipe Lines
Refiners — Marketers

Here & There

National Petroleum News

J. L. HARP

who was formerly in charge of the bulk sales department at Kansas City, Mo., of the Sinclair Refining Co., Chicago, has been transferred to Philadelphia offices of the company where he has been placed in charge of sales for Pennsylvania, Delaware, New Jersey, Maryland and West Virginia. Mr. Harp has been with the Sinclair company for about eight years.

Paul F. Cosgrove, who was prior to July 1, 1925 general manager of Consumers Oil Co., Augusta, Ga., is now with the Automobile Rotary Lift Co., in its southern territory with headquarters at New Orleans, La. Main offices of the company are at Memphis, Tenn.

Mr. Cosgrove organized the Consumers company in 1919 and continued as general manager until July, 1925.

* * *

C. A. Chassin, superintendent of operations at Cleveland, O. for the Cities Service Oil Co., is in Detroit. L. K. Lynch, superintendent of service stations, is handling Mr. Chassin's work during the latter's absence, according to L. B. Davis, division manager of the company at Cleveland.

* * *

L. A. Garber, salesman until recently at Neosho, Mo., for the Standard Oil Co. of Indiana, Chicago, has been transferred to Miami, Okla.

* * *

Kirby Thomas, engineer at New York City, is examining oil and coal properties Armstrong county, Pa., for New York interests.

John L. Coulson, who has been with the Beacon Oil Co., Everett, Mass. for the past five years, and lately as night **superintendent resigned that position** recently to become assistant superintendent of the new plant at Tiverton, R. I. of the Petroleum Chemical Corp., New York.

Mr. Coulson started in the oil business in 1916 with the Bayonne refinery of the Tide Water Oil Co., and resigned in 1921 to become foreman of pump houses for the Beacon company. He was later made night superintendent for the latter company.

* * *

L. E. Hughes, who has been salesman at Des Moines, Ia. for the Sinclair Refining Co., Chicago, has been promoted to agent at Fort Dodge, Ia.

B. D. Dixon, who was formerly at the company's refinery at Houston, Tex., was transferred to Des Moines, succeeding Mr. Hughes as general line salesman, according to W. S. Hamm, agent at Des Moines for the Sinclair.

* * *

B. J. Forsythe, who was formerly assistant agent at Newark, N. J. for the Gulf Refining Co., Pittsburgh, Pa., was recently promoted to agent at Valley Stream, Long Island. Previous to his connection with the Gulf company, Mr. Forsythe was salesman for 10 years with the Standard Oil Co. of New York at New York City.

* * *

H. T. West, president and treasurer of H. T. West Co., Chelsea, Boston, Mass., which distributes oils and operates naval stores, has returned from a **recent trip to Louisiana and Texas** where he went in the interests of his company's carbon black business.

* * *

Charles E. Brown, vice president of the Warren Petroleum Co., Tulsa, is confined to St. Johns Hospital at Tulsa with heart trouble. He expected to be out, however, in a few days and he will then embark on a trip to Ireland and France with his family.

* * *

L. T. Case, formerly with the Trans-Continental Oil Co., Tulsa, is now with the Packer Plug Cementing Co., Wetumka, Okla., in which company he has an interest.

* * *

George W. Snider, geologist in the Okmulgee, Okla. district for the Carter Oil Co., Tulsa, has been transferred to Kingman, Kan.

* * *

M. M. Verlous, Tulsa, was at Gumon, Okla. recently for 10 days, looking after business interests.

Ohio Gas Tax Limitation Plan Under Way

CLEVELAND, May 21.—Petitions on the plan of limiting the Ohio gasoline tax to 2 cents, and limiting or abolishing other taxes on automobiles, sponsored recently by Peter Witt, Cleveland councilman, are already in circulation at oil company filling stations throughout Cleveland and Cuyahoga county.

Most oil companies are in favor of the plan, Mr. Witt declared, and most of the larger ones in Cleveland, operating a total of about 300 stations in the county, are handling the petitions. Three petitions are passed out to each station, one petition having space for 85 signatures. This means that if each station obtains its quota of signatures more than 75,000 will be obtained from Cuyahoga county motorists, or about one-third of the required number for the whole state which will then make the plan eligible for submission to voters during the coming November elections. Full details of the plan were published in the March 3 issue of National Petroleum News, on page 40.

Fears of a "flare-back" by one or two large oil companies who had refused to handle these petitions on the ground that the plan involves politics, were characterized by Mr. Witt as "perfectly absurd."

Opinions of some of the oil companies on the plan and comments as to the manner in which it is being received by motorists at their service stations, are:

Brooks Oil Co., by A. M. Ward, general manager: "Petitions at our stations are being signed very rapidly and I believe that 98 per cent of the motorists driving into our stations are very much in favor of the plan. I called two meetings of our service station men, which were attended by 125 to 150 men, for the purpose of strongly stressing the importance of obtaining signatures to these petitions."

Pocahontas Oil Co., by N. F. Squire, sales manager: "We are, of course, in favor of this plan because it will help save money for our customers. But signatures on the petitions have not been obtained in very large numbers yet, due perhaps to the fact that our attendants have not taken enough time to explain the plan in detail to customers.

Many motorists are under the impression that this plan is one that is being promoted by oil companies until it is explained to them. No funds have as yet been taken in for campaign purposes as suggested by Mr. Witt.

The latter remark refers to the $1 which Mr. Witt asks motorists to either give to the attendant at the service station or mail to him (Mr. Witt) direct for the purpose of defraying expenses in carrying on work in connection with the plan.

HIAWATHA, KAN.—Kimmel Oil Co. has built and put into operation a bulk station with 57,000 gallons storage at Sabetha, Kan.

Gets and Keeps More Customers

MODEL 20

Write Today

ECO comes in eight models, sold at prices that will interest you. Rapidly being adopted as standard equipment by the larger oil companies. Write for detailed information.

IN every community, leaders in the filling station business are getting the jump on competition by installing ECO Automatic Air Service.

Why? Because ECO gives what motorists have always wanted—automatic air service. Just set it at the pressure desired, and apply chuck to valve stem. ECO bell rings while tire is being filled. Bell stops and air shuts off at right pressure. And, being accurate to a pound, ECO is ideal for balloon tires.

That's why the man who once uses it, wants ECO service all the time, and keeps coming back to your station to get it.

Besides getting more business, ECO gives you two big savings in station-operating expense. Write ***now*** for complete facts on ECO.

Western Mfg. Company
Oskaloosa **Iowa**

ECO
Automatic Air Station
"The Station That Rings the Bell"

MODEL 50

POPULAR OIL GEOLOGY by Victor Ziegler, is a non-technical book for the layman interested in geology from a practical standpoint. As shown by the following table of contents, it will give him information on—

The Rise and Development of the Petroleum Industry. The Composition and Properties of Oil and Gas. The Origin of Oil and Gas. Rocks and Their Properties. Stratigraphic Geology. The Arrangements and Structures of Rocks. The Reservoirs of Oil and Gas. The Laws of Migration and Accumulation of Oil and Gas. Maps and Their Uses. Oil Structures and Oil Fields. Popular Fallacies in Oil Geology. Prospecting and developing Oil Lands. Oil Shales and Their Utilization. Oil Investments.

We are selling POPULAR OIL GEOLOGY for $3. Mail us your check now for a copy.

NATIONAL PETROLEUM NEWS
801 Caxton Bldg. Cleveland, Ohio

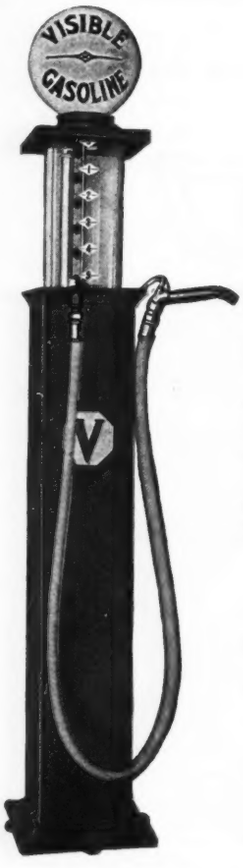
Gasoline and Oil Filling Stations

and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.

524-544 Eggleston Ave. **Cincinnati, Ohio**



The Biggest SANDWICH

for 5 cents interested the Oil Jobber 50 years ago.

Today it is the most pump for the money that interests him.

This can be found in all Volcker Visibles. Not a better pump is made at any price yet the cost of Volcker Visibles is only

Type P-G	*Type P-H*
5 gallon hand	*10 gallon hand*
68.00	73.00

Volcker Mfg. Company

Riverside Drive, Huntington, Indiana

Industrial Notes

The Groetken Pump Co., Aurora, Ill., has put on the market an improved meter for retailing gasoline at service stations. It can be used with hand, power or air. The meter sounds a bell at each gallon and can be set for any number of gallons.

* * *

American Seamless Tube Corp., New York, with offices also in California, has appointed as its exclusive agent Moran-Dwight & Co., Tulsa, which is a factory representative of French, German, Belgium and Czecho-Slovakian pipe mills.

F. G. Harris, formerly with the South Chester Tubing Corp., is now with the Moran-Dwight company and will be in charge of that company's pipe business.

* * *

C. F. Braun & Co., Tulsa, has opened a sales and engineering office at Dallas, Tex., in the Republic National Bank Bldg., with V. V. Jacomini as manager.

* * *

Standard Asbestos & Cork Co., Tulsa, has been appointed distributor for Adamant fire brick cement made by the Botfield Refractories Co., Philadelphia. The former company will serve Oklahoma and southern Kansas territory.

* * *

The Mars Co., Aurora, Ill., manufacturer of the Mars swivel hose joint, is getting into production a yard pump for the farm trade. The pump will be on the market soon. The pump will be housed and sold complete with hose, check foot-valve and strainer.

Industrial Catalogues

The Brown Instrument Co., Philadelphia.—Catalog No. 15 of 80 pages contains the latest information on pyrometers made by the company and includes information on the Brown new design recorders, presenting eight new important features, the catalog states; the Bureau of Standards certificate of test of the pyrometers; new moisture-proof rotary switch; new thermocouple protecting tubes; and complete description and illustrations of Brown pyrometers of all types, and other equipment with prices.

* * *

Leader Iron Works, Decatur, Ill.—Bulletin 102 on bulk storage and filling station equipment, and bulletin 503, describing its line of truck tanks, has been published. A new line of brass goods, valves, fittings, etc., has been added to the bulk and filling station equipment line.

Copies of the bulletins may be obtained by writing the company.

New Books

A Review of the Year

The Petroleum Division of the American Institute of Mining and Metallurgical Engineers has grown greatly in scope and authoritativeness during the past two or three years and nowhere has that been emphasized so well as in the volume, "Petroleum Development and Technology in 1925", which is just off the press. This book, distributed to members of the Institute, is for sale to others by the Institute, 29 West 39th St., New York, for $5.00

More than 100 men have contributed papers during the past year to the petroleum meetings held in Los Angeles, Casper, Tulsa and New York. All these have been brought together in the present volume totalling 784 pages. The fields of producing, refining and transportation are covered in articles by authorities. On production, there is in addition to the articles on technology, reviews of the development the world over in 1925 with forecast for 1926.

Publication of articles on petroleum are to appear annually henceforth.

* * *

A new book in German, by L. Steiner, graduate engineer, has just been put out by the publishing house of Julius Springer in Berlin. The book bears the name, "Tiefbohrwesen, Foerderverfahren und Elektrotechnik in der Erdoelindustrie," or Deep Drilling Methods, Production Operations and The Elektrotechnik of the Petroleum Industry.

The book describes methods of percussion and rotary drilling with their various attendant operations of bailing and so on, and gives methods of calculating the power installation needed for various operations. Another part discusses completely the production of oil by various types of pumps, and so forth and goes into the comparative merits of electric and steam drive for production operations.

* * *

Occurrence, Geology of Petroleum

Recently the J. B. Lippincott Co. published "Outlines of the Occurrence and Geology of Petroleum," by I. A. Stigand, M. A., F. G. S., London.

This book is intended merely to furnish an outline of the subjects mentioned in the title and to provide the essentials to a clear understanding of the principles upon which modern oil-finding relies. It is written in a clear but condensed style, and makes no pretense to being other than an outline. It qualifies admirably as such .

An important part of the book is an appendix devoted to geophysical methods as applied to oil-finding. This newer technology is described by M. Muhlberg, of Aarau, Switzerland.

MINNEAPOLIS, MINN.—The Jennison Oil Co. recently opened four new service stations here, giving it a total of 10 stations.

Type E-2 18x38x9½ ft.

There are 70 Different Types of Permanent

Shepard Stations

QUICK DELIVERY
READY FOR QUICK ERECTION
BY YOUR OWN MEN

WIRE COLLECT FOR CATALOGUE

Arthur B. Shepard Corporation
Architects and Manufacturers
11 Broadway **New York**

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.
District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

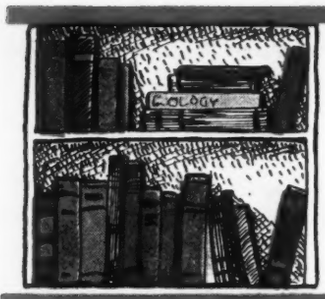
PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS



Oil Man's Bookshelf

"THE man who does not devote a part of his spare time to study, will continue to turn the grindstone while the other fellow sharpens his ax."

The OIL MAN'S BOOKSHELF will help you select books you can read and study with the greatest profit, whether you are in the refining, producing, natural gasoline or marketing divisions of the industry.

Below are some books that have been highly recommended by oil men.

THORNTON'S LAW *of* OIL and GAS

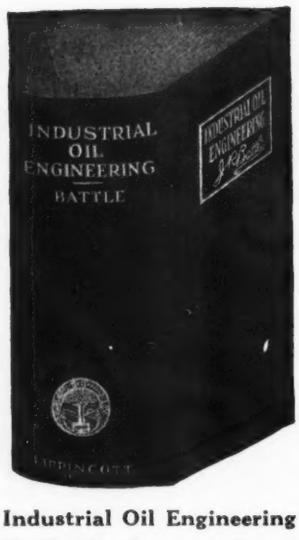
The fourth edition of Thornton's Law of Oil and Gas, just out, gives the latest compilation of all statutes and court decisions pertaining to oil and natural gas.

All problems of transportation of oil and gas, explosions, leases, drilling contracts, insurance, taxes and personal injury cases are discussed thoroly and cases cited.

This law work is written by an authority—W. W. Thornton, late Judge of the Superior Court of Marion County, Ind.

Every oil company in the country should protect itself with a copy of Thornton's Law of Oil & Gas.

Two volumes, 3,000 pages—$20. Send for your copy today.



Industrial Oil Engineering by J. R. Battle, contains 1,100 pages of tables, charts, requirements and other information on lubrication and industrial oils.

Tells you the most efficient utilization of oil products and equipment; the saving of power and elimination of oil waste.

Industrial Oil Engineering is the most complete work ever written on lubrication—Price $10.

ROMANCE OF GASOLINE

The complete story of "Gasoline" told in popular language, and written by an authority on the subject of its use in motor cars—T. A. Boyd, head of fuel section, General Motor Research Corp.

What gasoline is, where it comes from, its properties, what distinguishes good gasoline from bad, how the motorist can get more miles out of a gallon, and help in the economy of this important fuel—all these facts are given in chatty, non-technical style.

"Gasoline" is a message to the public that has so often been recommended to the oil industry. Every man engaged in the making and distributing of motor fuel should read it.

206 pages—popularly priced at $2.50.

Cut and Mail

National Petroleum News,
850 Caxton Bldg., Cleveland, Ohio.
I want the books checked below. Enclosed is check or money order for $.....

☐ THORNTON'S LAW OF OIL AND GAS.

☐ INDUSTRIAL OIL ENGINEERING by J. R. Battle.

☐ GASOLINE by T. A. Boyd.

NAME .....

Address .....

.....

.....

ON THE LAZY BENCH

National Petroleum News

Two Things For Which To Give Thanks

From Inland Oil Index, May 7

Lloyd B. Smith and wife are the pleased parents of a baby daughter. Mr. Smith is in the chemical research department of the Standard Oil Co. of Indiana with Casper headquarters.

From letter from Mr. Smith in Inland Oil Index, May 14.

" * * * Outside of the fact that Casper is at the present time my headquarters, the rest of your item is in error. I am in no way responsible for the birth of a baby daughter to my brother's family, which occurred on May 3, and I have never been a chemist—Thank God! * * "

◈ ◈ ◈

The Slogananiac

The head of a large business house bought a number of those "Do it now" signs and hung them up around his offices. When, after the first few days of those signs, the business man counted up the results, he found that the cashier had skipped out with $20,000, the head bookkeeper had eloped with the stenographer, three clerks had asked for a raise in salary, and the office boy had lit out for the west to become a highwayman.

—Pure Oil News.

◈ ◈ ◈

Let Us All Sing

Minister (conducting on Demon Rum): "And if I had my way, I'd throw all the liquor and whiskey in this town into the river. We will now sing the concluding hymn."

Choirmaster: "The congregation will please rise and sing No. 79—"Shall We Gather at the River?"

—Pure Oil News.

◈ ◈ ◈

Caution, Men, Caution

Will the gentleman described as being about thirty-five years of age, a little bit bad and a little bit good, who smokes a little, drinks a little, and swears when he gets mad, please communicate with the editor. We have information which will be to his advantage.

—The Booster.

◈ ◈ ◈

Correct

If the woman who dresses quite proper,
Doesn't soon find something to stop her
From wearing men's clothes,
The Lord only knows
The kids won't know Mommer from Popper.

—Pure Oil News.

Origin of a "Cracked Voice"

A young woman with aspirations to be a singer, and, as is so often the case, little else, went to a German vocal teacher for a tryout before arranging to take lessons. The professor sat down and played a selection while the budding but ambitious singer poured out her choicest assortment of notes. When all was over the professor swung around on his stool and in a wrathful voice said:

"Ach! Never have I heard such a voice! I blay on der vite keys und I play on der black keys, but you sing in der cracks!"

—Bottles

◈ ◈ ◈

We Didn't Care so Much About Joining Either

There is one man in the United States to whom the income tax return blanks didn't bring a frown. Instead, his letter of acknowledgement caused smiles to treasury officials. The letter read:

"Dear Treasury: I received your application blank, but I already belong to several good orders and do not care to join your income tax at this time."

—Magnolia Oil News.

◈ ◈ ◈

Where the Crowds Go Sunday Night

Harold Cornelius called our attention to a theatre advertisement which read—"You can see a clean show at this theatre every night except Sunday."

Then he suggested that we go next Sunday night.

—Michigan Flash Points

◈ ◈ ◈

What Do Specifications Mean, Anyway?

The following extract from a letter from a customer in Wales seems to suggest that our trademark is of aquatic origin:

"Please dispatch immediately barrel exhibiting red crab under Zeta Heavy."

—Vacuum Oil Co. Compass.

◈ ◈ ◈

Expert Testimony

Irate Father—"Young man! How is it that I find you kissing my daughter? How is it, I ask you, how is it?"

Young man (rapturously)—"Great sir; great!"

—The Booster

◈ ◈ ◈

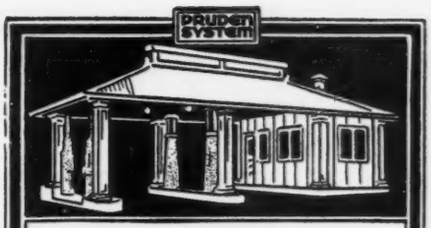
Good to the Rest of Us, Too

"Santa Claus certainly was good to that girl."

"Howzat?"

"See what he put in her stockings."

—Pure Oil News.



COOL IN SUMMER AND WARM IN WINTER

PRUDEN System copper-alloy galvanized steel buildings can be perfectly insulated against heat and cold.

They are beautiful in appearance, and thoroughly practical. They can be quickly erected, enabling you to be doing business in them long before another type of station could be completed.

They are portable. A Pruden System building can serve you on many different locations during its long lifetime. Put one up wherever business is good; then move it, whenever you like, to where business would be better.

They are strong, lasting, and absolutely fireproof, being fabricated *entirely* of steel.

Send for circular, showing wide variety of styles and sizes.

Some good territory is open for representatives

The METAL SHELTER *Co*
WABASHA & WATER STS.
SAINT PAUL, MINN

ALL-IN-1 FOLIO

Net $21.60

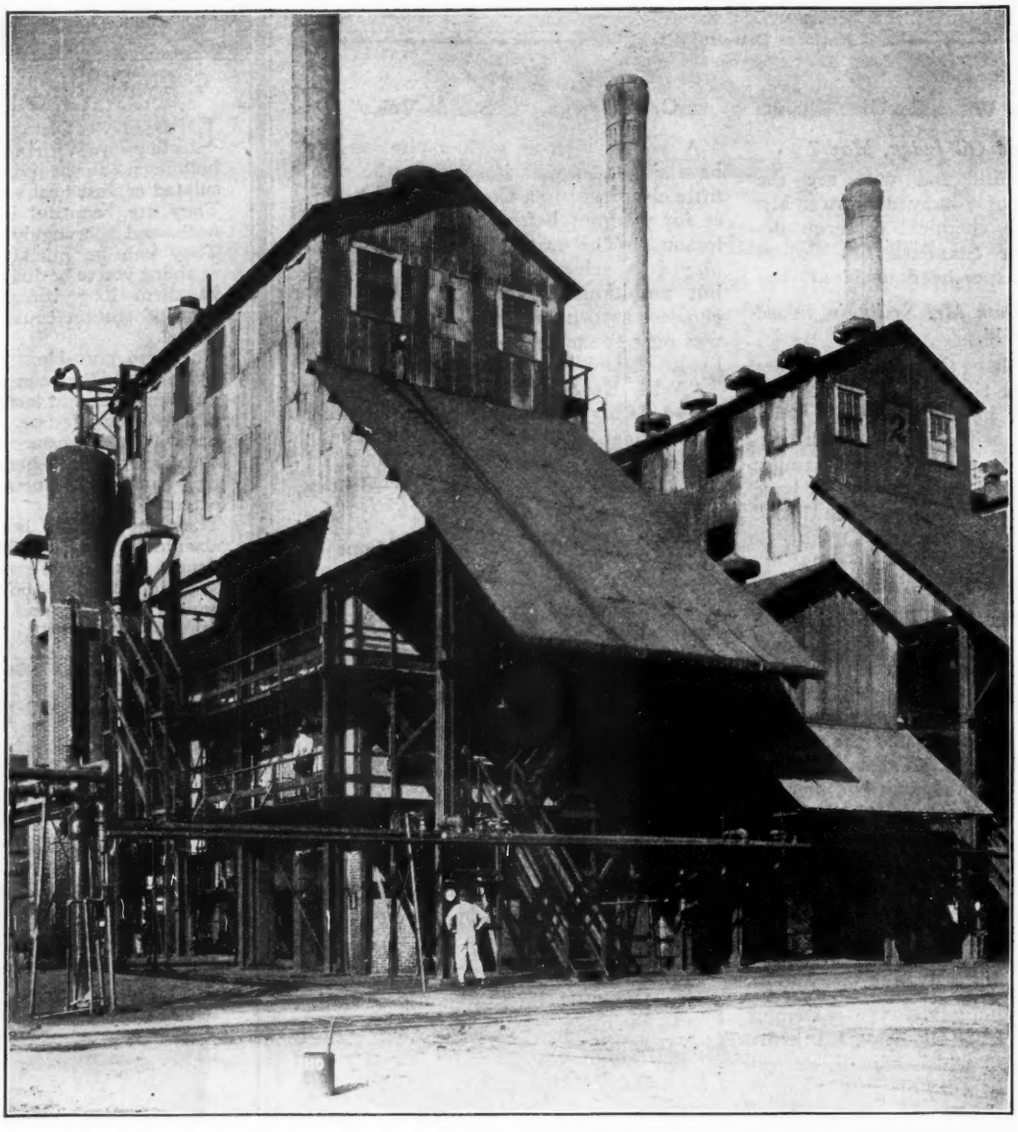
Closed, 301 is a handsome Portfolio of selected, 5 oz., black cowhide. Open however, it is an efficient, attractive Display Case, containing 18 four ounce cut-bottom bottles with metal capped corks, and 6 one ounce squat grease jars. There are no trays to lift out, no metal clips to break the bottles. The flaps are lined with washable Keratol, and the samples backed against red plush. There is also an ample pocket for order book and literature. Satisfaction is guaranteed. Your name embossed in gold *free.*

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware KANSAS CITY, MO.



Unit No. 1, at the Port Arthur Works of The Texas Company

In service since February 8th, 1920

Total charge (to March 31, 1926,) 1,736,890 barrels

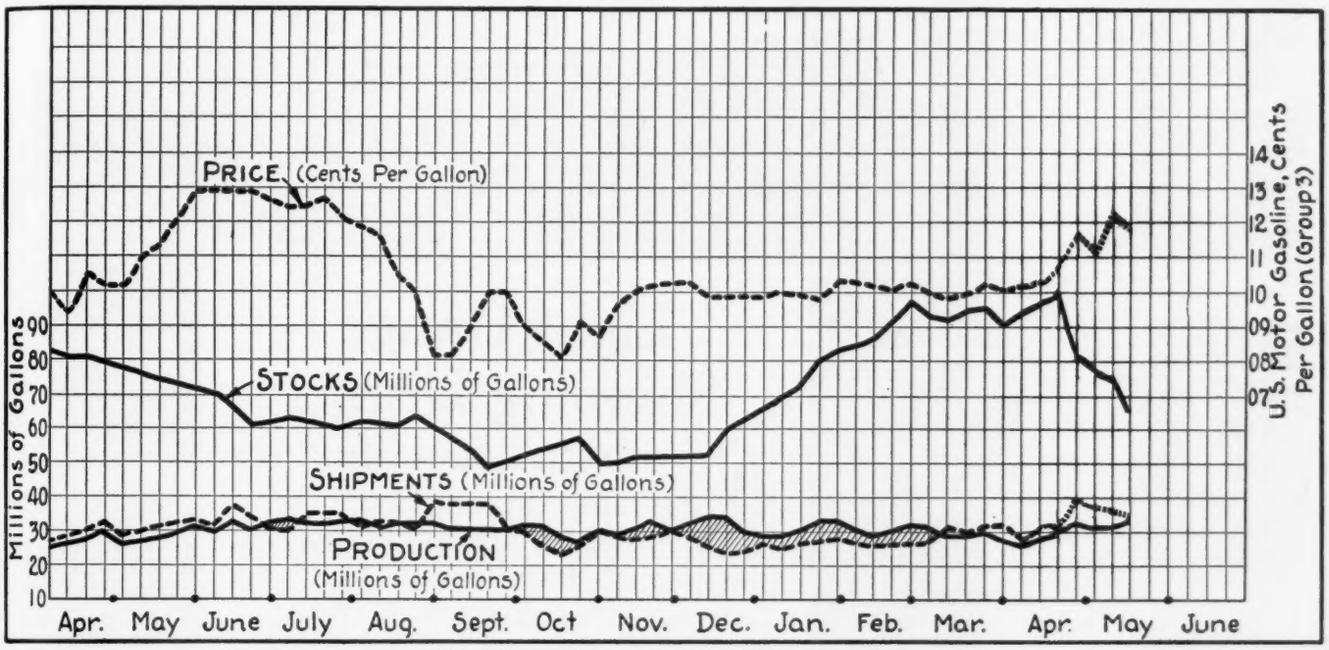
While this is an old type unit and has seen much service, it is still giving excellent results. This unit is now consistently charging over 25,000 barrels per month, although when first designed it was rated at only 15,000 barrels per month. ' '

Refinery - Tank Wagon Markets

National Petroleum News

Barometer of the Mid-Continent Gasoline Markets Week Ended May 21

(Figures on Stocks, Shipments and Production taken from National Petroleum News weekly compilation of Mid-Continent Refinery Operations.)


PRICE (Cents Per Gallon)
STOCKS (Millions of Gallons)
SHIPMENTS (Millions of Gallons)
PRODUCTION (Millions of Gallons)
Millions of Gallons
U.S. Motor Gasoline, Cents Per Gallon (Group 3)
10 20 30 40 50 60 70 80 90
07 08 09 10 11 12 13 14
Apr. May June July Aug. Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May June

(Shaded area above represents additions to stocks)

Buying Lull Keeps Mid-Continent Market Unsettled

TULSA, May 22.

THE Mid-Continent refinery market, upset a week ago by crude and tank wagon price advances, passed through this week without finding a definite settling spot. Practically the entire list with the exception of neutral and cylinder stocks suffered some recession in prices below those posted as soon as the advances were announced. Neutrals and cylinder stock prices failed to change primarily because refiners who make those commodities withdrew quotations for a day or two, then announced they would continue to quote as they had until they could revise their price lists.

Gasoline bought for deferred shipment over May was the most disturbing factor in the market. Refiners tried desperately to hold to the ¾ to 1 cent advance on gasolines which they felt was warranted by the tank wagon and crude advances. Demand for gasolines, however, was not strong enough to keep prices up, yet there was sufficient demand to take care of most gasoline offered at concessions for immediate instructions.

This demand naturally gave the refiners an opportunity to ship goods on old orders and they were able to keep some gasoline moving with the result that little actual pessimism was apparent.

Most of the market's softness has been caused by the keen competition between brokers who have bought gasoline over May at a flat price and their sources of supply.

Compete with Own Product

SEVERAL refiners are content to sell gasoline at a flat price for shipment over a month, yet are forced to meet this competition from brokers when a lull in buying comes. Brokers who have purchased the goods can well afford to undersell refiners and still make a profit **provided the market has moved upward.** Refiners generally felt that they were justified in getting higher prices this week but since some had sold large quantities at approximately 11 cents per gallon, they could not successfully compete at 12 to 12¼ cents with their broker-buyers, when the brokers could, if necessary, cut their prices to 11⅛ and 11¼ cents per gallon and still make the usual profit.

Refiners have steadily decreased stocks for six weeks, despite the fact that crude runs have been gradually increased. Stocks of gasoline on hand as shown by reports gathered weekly from 124 Mid-Continent refineries by National Petroleum News, are lower than at this time last year. They are not nearly large enough to be burdensome with summer demand on the threshold. Crude and tank wagon price advances caught the market in the middle of the month when there normally is a slight lull, because jobbers for the most part have covered their requirements for the month, and are not interested until around the 20th about their future requirements.

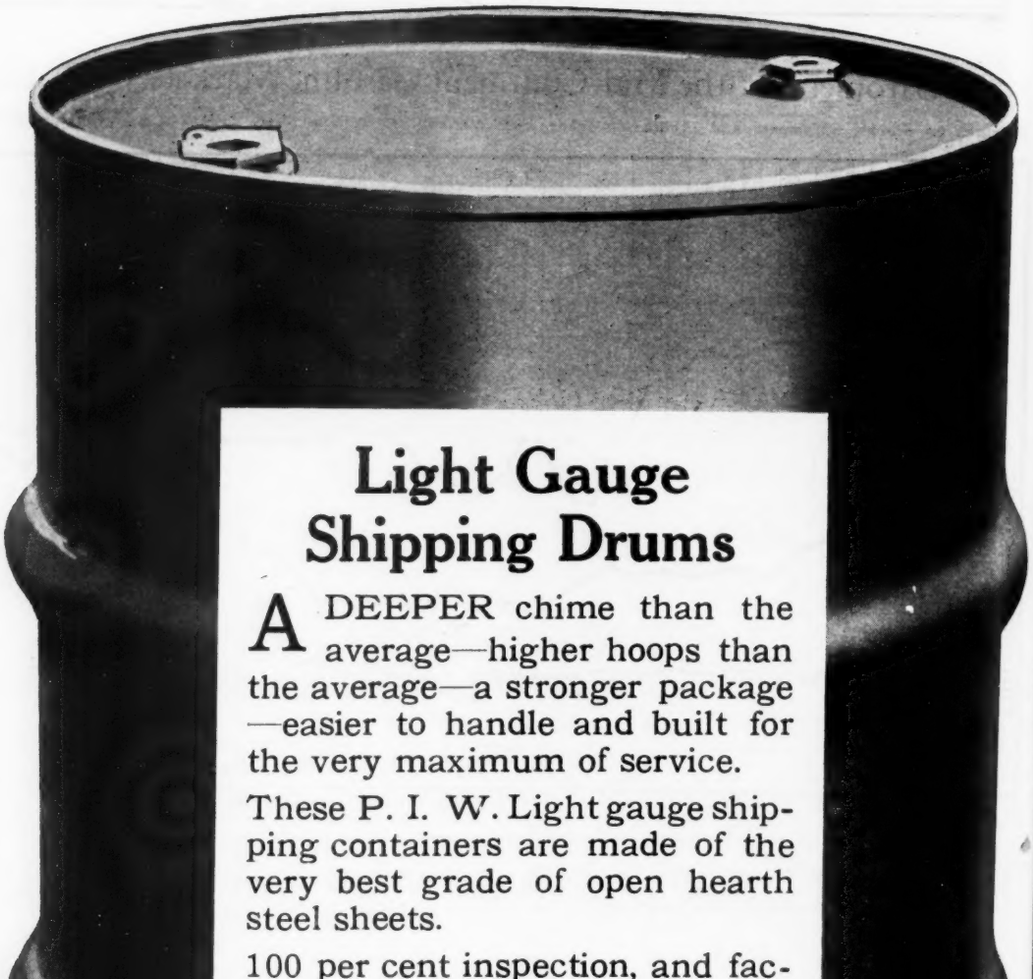
Consensus of opinion is that the bottom of the market has been reached and that next week will witness brisker buying, with inquiries for June shipments coming in.

Bid on June Shipments

REFINERS report inquiries are already coming in with bids to buy at present prices for over the first half of June. These bids, however, are being refused and counter quotations are being sent out. The lowest quotations for over the first half of June, as far as

(Continued on page 101)

For The Shipment of Liquids With A Flash Point Above 80° F.



Light Gauge Shipping Drums

A DEEPER chime than the average—higher hoops than the average—a stronger package—easier to handle and built for the very maximum of service.

These P. I. W. Light gauge shipping containers are made of the very best grade of open hearth steel sheets.

100 per cent inspection, and factory tests assure a uniform high quality always.

THE PETROLEUM IRON WORKS CO.
Pressed Steel Products Department

Plants: Sharon, Pa., Beaumont, Texas.

Branches: New York, St. Louis, Tulsa, Houston, Kansas City, San Francisco, Beaumont.

P. I. W. Service Is World Wide

P.I.W.
PRESSED STEEL PRODUCTS

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices May 24	Prices May 17	Prices May 10
52-54 Naphtha	13½-14	13 -13½	13 -13½
54-56 Naphtha	13¾-14¼	13¼-13¾	13¼-13¾
58-60 Gasoline	14½-15	13¾-14	13¾-14
60-62 Straight-run gasoline	15 -15½	14¾-14½	14¾-14½
64-66 Straight-run gasoline	15¼-15½	15 -15¼	15 -15½
68-70 Straight-run gas. 350-360 E.P.	-16	15½-16	-16
68-70 Straight-run gas. 305-320 E.P.	-20	-20	-20
OKLAHOMA			
48-50 450 E. P. naphtha	11½-11¾	-11¾	10¾-11
50-52 450 E. P. naphtha	11½-11¾	-11¾	-11
56-58 450 E. P. gasoline	11½-11¾	11¾-12	-11
56-58 U. S. Motor gasoline	11¾-11¾	12 -12⅛	11 -11⅛
58-60 450 E. P. gasoline	11¾-11¾	12 -12⅛	11 -11⅛
58-60 U. S. Motor 437 E. P.	11¾-12	12 -12½	11¼-11½
60-62 400 E. P. gasoline	12⅛-12⅜	-13	12¼-12⅜
64-66 390 E. P. gasoline	12½-12¾	-13¼	-12½
64-66 375 E. P. gasoline	12¾-13	13¼-13¾	12½-12¾
68-70 350-360 E. P. gasoline	13¼-13½	13¾-14	13¼-13½
64-66 437 E. P. blend	11½-11¾	-12	-11¼
KANSAS*			
58-60 U. S. Motor gasoline	12¼-12½	12½-12¾	-11¾
60-62 400 E. P. gasoline	12¾-13	-13¼	12½-12¾
64-66 375 E. P. gasoline	13 -13¼	13½-13¾	13½-13¾
*F. O. B. refinery Kansas destination.			
NORTH TEXAS			
48-50 450 E. P. naphtha	11¼-11½	-11½	-10¾
56-58 450 E. P. gasoline	-11½	12½-12¾	10¾-11
58-60 450 E. P. gasoline	11½-11¾	11¾-11⅞	-11
56-58 U. S. Motor gasoline	-11¾	11¾-12	11 -11⅛
58-60 U. S. Motor gasoline	11⅞-12⅛	12 -12¼	11¼-11⅜
64-66 390 E. P. gasoline	-12¼	13 -13¼	12½-12¾
64-66 375 E. P. gasoline	13 -13⅛	13¼-13¾	12½-12¾
68-70 350-360 E. P. gasoline	-13½	-14¼	13 -13½
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	12¼-12½	-12	-11¼
ARKANSAS			
58-60 450 E. P. gasoline	12¼-12½	-12¼	-11¾
58-60 U. S. Motor gasoline	12½-12¾	12½-12¾	11¾-11¾
64-66 375 E. P. gasoline	13¼-13½	13¼-13½	-13¼
CALIFORNIA			
54-61 U. S. Motor gasoline	12½-13	12½-13	12½-13
42-45 Engine distillate, 445-480 E.P.	10 -10½	10 -10½	10 -10½

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND (F. O. B. Boston and Fall River)			
*J. S. Motor gasoline		-13⅞	-14⅛

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade Double A	-10½	-11	10½-10¾
Grade A	-10½	-11	10½-10¾
Grade Double B	-10¼	-10¾	-10¼
Grade B	-10¼	-10¾	-10¼
Grade C	-10	-10½	-10

NOTE—Specifications adopted by Ass'n. of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH LOUISIANA			
*Grade Double A	-11¼	-11½	11 -11¼
*Grade Double B	-11	-11¼	10½-10¾
*Grade C	10½-10¾	-11	10½-10¾
*F. O. B. Monroe District.			
NORTH TEXAS			
*Grade Double A	10½-10⅝	-11	10½-10¾
*Grade A	10½-10⅝	-11	10½-10¾
*Grade Double B	-10¼	-10¾	-10¼
*Grade B	-10¼	-10¾	-10¼
*Grade C		-10½	-10
*F. O. B. Breckenridge.			
CALIFORNIA			
78-84° 375 E. P.	15½-16	15½-16	15½-16
PENNSYLVANIA			
68-70 Grav. 437 E. P.	14½-15	14 -14½	14 -14¼
64-66 Grav. 437 E. P.	14½-15	14 -14½	14 -14¼
60-62 Grav. 437 E. P.	14½-15	14 -14½	14 -14¼
68-70 Grav. 420 E. P.	14¾-15¼	14¼-14¾	14¼-14½

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	12½ 13	12¼-12½	-11
46 Water White Kerosene	12¾-13	12¾-13	11 -11¼
47 Water White Kerosene	13¼-13½	-13	11¼-11½
300 Burning Oil		- 9	8½- 9
OKLAHOMA			
41-43 Water White Kerosene	10⅝-10⅜	-10½	10 -10¼
42-44 Water White Kerosene	-10½	-10¾	-10½
KANSAS			
41-43 w. w. kerosene	-11	-10¾	10 -10¼
42-44 w. w. kerosene	-11¼	11 -11¼	10¼-10½
NORTH TEXAS			
41-43 Water White Kerosene	10 -10¼	-10½	10 -10¼
NORTH LOUISIANA			
41-43 Water White Kerosene	10¼ 10½	-10½	10 -10¼
ARKANSAS			
41-43 Water White Kerosene	10½-10¾	10½-10¾	10¼ 10½
CALIFORNIA			
38-40 Water White Kerosene	7 - 8	7 - 8	7 - 8
NEW ENGLAND			
*40-43 Water White Kerosene			-11¼

NEUTRAL OIL

PENNSYLVANIA (Viscosity at 70° F.)			
200 Vis. No. 3 Assoc. Filt	28½-29½	28 -29	27½-28
180 Vis. No. 3 Assoc. Filt	26½-27½	26 -27	25½-26
150 Vis. No. 3 Assoc. Filt	23 -25	22 -23	21½-22
(Non-Viscous)			
34 Grav. 350-360 Flash	7¾- 8¼	8 - 8¼	8 - 8¼
36 Miners Neutrals 300-305 Flash	7½- 7¾	7¼- 7½	7¼- 7¾
OKLAHOMA (Viscosity at 100° F.)			
100 Vis. No. 2 color	6¼- 7¼	6½- 7¼	6½- 7½
150 Vis. No. 3 color	9 -10	9 -10	9½-11
150 Vis. No. 4 color	9½- 9¾	9½- 9¾	9½- 9¾
180 Vis. No. 3 color	-10¾	-10¾	10¾-10½
180 Vis. No. 4 color	9½-10¾	9½-10¾	10 -10½
180 Vis. No. 5 color	9½-10¾	9½-10¾	-10¾
200 Vis. No. 3 color	-11¾	-11¾	-11¾
200 Vis. No. 4 color	11¾-11¾	11¾-11¾	11¾-11¾
200 Vis. No. 5 color	9½-11¾	9¾-11¾	9½-11¾
220 Vis. No. 3 color	12 -13	12 -13	12 -13
220 Vis. No. 4 color	13 -13¾	13 -13¾	13 -13¾
220 Vis. No. 5 color	12 -12¾	12 -12¾	-12¾
240 Vis. No. 3 color	14 -16	14 -16	14 -16
240 Vis. No. 4 color	14¾-14¾	14¾-14¾	14¾-14¾
240 Vis. No. 5 color	-14	-14	-14
280 Vis. No. 3 color	16 -17	16 -17	16 -17
280 Vis. No. 4 color	16¾-16¾	16¾-16¾	16¾-16¾
280 Vis. No. 5 color	15¾-16	15¾-16	15¾-16
300 Vis. No. 5-6 color	17 -18¾	17 -18¾	17 -18¾
GULF COASTAL (Viscosity at 100° F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8 - 8½	8 - 8½	7½- 8
200 Vis. No. 3 Color Unfilt. Pale	12 -12½	12 -12½	11¾-12
300 Vis. No. 3 Color Unfilt. Pale	13½-14	13 -14	13 -13¾
500 Vis. No. 3½ Color Unfilt. Pale	15½-16	15 -16	15 -15¾
750 Vis. No. 4 Color Unfilt. Pale	19½-20½	19 -20	19 -20
200 Vis. No. 5½ Color Red Oil	10 -10½	10 -10½	9¾-10
300 Vis. No. 5½ Color Red Oil	12 -12½	11¾-12½	11¾-12
500 Vis. No. 6 Color Red Oil	13½-14	13 -14	13 -13¾
750 Vis. No. 6 Color Red Oil	17½-18½	17¼-18½	17 -18
CALIFORNIA (Viscosity at 100° F.)			
100 Vis. No. 2 color	11 -11¾	11 -11¾	11 -11¾
100 Vis. No. 3 color	8½- 9	8½- 9	8½- 9
200 Vis. No. 3 color	13½-14	13¾-14	13½-14
300 Vis. No. 3 color	15 -15½	15 -15½	15 -15½
450 Vis. No. 3½ color	18 -18½	18 -18½	18 -18½
550 Vis. No. 3 color	20 -21	20 -21	20 -21
600 Vis. No. 3½ color	21 -22	21 -22	21 -22
100 Vis. No. 5 color	7 - 7½	7 - 7½	7 - 7½
200 Vis. No. 5 color	12 -12¾	12 -12½	12 -12¾
300 Vis. No. 5 color	13 -13½	13 -13½	13 -13½
400 Vis. No. 5 color	15 -16	15 -16	15 -16
500 Vis. No. 5 color	16 -17	16 -17	16 -17
600 Vis. No. 6 color	17 -18	17 -18	17 -18
700 Vis. No. 7 color	18 -19	18 -19	18 -19

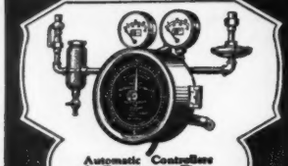
CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 -35	31 -35	31 -35
150-160 Vis. at 210° Bright Stock	27 -31	27 -31	27 -31
600 E Stock, 140-150 Vis. — 210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8½-11	8½-11	8½-11
600 Steam Refined Dark Green	6½- 7	6½- 7	6½- 7
Black Oil	5 - 6	5 - 6	5 - 6
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	14¾-16½	14½-15	14½-15
650 Steam Refined	20½-21	-21	20½-21
600 Flash	24 -24½	24 -25	24 -25
625 Flash Steam Refined	-34	-34	-34
600 Warren E	21 -21½	21 -21½	20½-21
600 Oil City E	20 -20½	20 -20½	19½-20
600 Filtered D			25 -26
Cold Test Stocks (bright filtered)	39 -40	38½-40	38½-40
Cold Test Stock (dark filtered)	37 -38	36 -38	36 -38

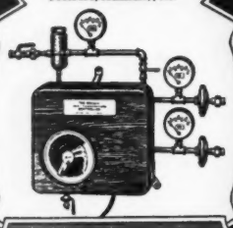
(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

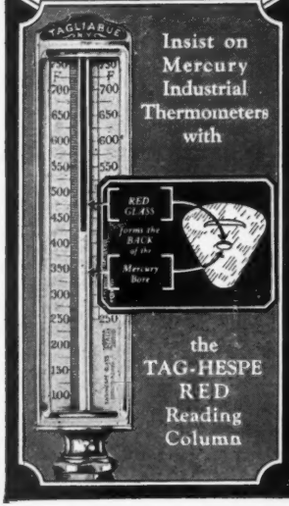
Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

*No quotation.



Automatic Controllers for Temperature, Time, Pressure, Humidity, etc.





Insist on Mercury Industrial Thermometers with

the TAG-HESPE RED Reading Column

TAG

One of a series of brief discussions of the standard tests of petroleum products. No. 1 (Gravity) see N. P. N. for March 10; No. 2 (Color) March 24; No. 3 (Viscosity) April 14; No. 4 (Cloud and Pour) April 28; No. 5 (Distillation) May 12.

No. 6—Carbon Residue

Lubricating oil has an annoying habit of creeping past the pistons of internal combustion engines, from the crank side to the explosion side. It does no good there, and as it burns it leaves a residue known as carbon. In order to determine the exact amount of carbon, one must actually burn a given quantity of lubricating oil under standard test conditions.

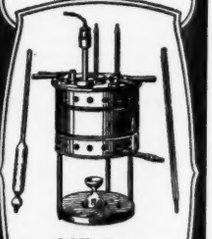
The only standard test is the A. S. T. M. serial D47-18, which has also been adopted by the U. S. Government, the A. P. I. and the N. P. A. The official procedure, which takes about a half hour, is described in the TAG Manual (by mail $1.00). It is not a difficult test, but much depends upon the proper design and construction of the apparatus.

The TAG A. S. T. M. Carbon Residue Apparatus (Conradson Type) is built in accordance with the specifications. Its moderate cost frees you from the temptation of putting your trust in a cheap makeshift. Described in catalog N-699—free on request.

Next Discussion (Flash Point) in this space June 9th.

Recording Thermometers, Pressure Gages, etc.

Dial-Indicating Thermometers



Oil-Testing Instruments, Laboratory Thermometers, Hydrometers etc. etc.

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More Than A Truck Tank

It is Certified Oil Transportation and It Carries ALL the Oil

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BROWN SHEET IRON & STEEL CO. **ST. PAUL, MINN.**

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We are interested in your tanks. Send your catalog and prices.

Make of Truck ..... Year ..... We operate ..... (number) Tank Trucks.

Other equipment on which you may send prices .....

Name ..... Address .....

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices May 24	Prices May 17	Prices May 10
	(Per Pound, New York)		
122-124 White Crude Scale..	5⅜- 5¾	- 5	- 5
124-126 White Crude Scale..	- 5⅜	- 5⅜	- 5⅜
OKLAHOMA	(Per Pound, Group 3)		
124-126 White Crude Scale..	4¾- 5	4¾- 5	4¾- 5
CALIFORNIA			
White Crude Scale.....	5½- 6	5½- 6	5½- 6

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	- 7	7 - 7⅛	7 - 7⅛
30-34 Fuel Oil.....	6¼- 6¾	6¼- 6½	6¼- 6¾
28-30 Fuel Oil.....	6¼- 6½	6¼- 6½	6 - 6½
OKLAHOMA			
38-40 Straw distillate.....	4⅜- 4⅝	4⅜- 4¾	4⅝- 4¾
36-38 Straw distillate.....	4¼- 4⅜	4⅜- 4½	4⅜- 4½
32-36 Gas oil (Gal.).....	4 - 4⅛	4 - 4¼	4 - 4¼
26-30 Fuel oil (Bbl.).....	1.35 -1.45	1.40 -1.50	1.45 -1.55
24-26 Fuel Oil (Bbl.).....	1.30 -1.35	1.32½-1.37½	1.37½-1.40
22-26 Fuel Oil (Bbl.).....	1.25 -1.30	1.27½-1.32½	1.30 -1.32½
18-22 Fuel Oil (Bbl.).....	-1.25	1.27½-1.30	-1.30
14-18 Fuel Oil (Bbl.).....	-1.20	.....	.....
KANSAS*			
38-40 Light straw distillate..	4⅝- 4⅞	4⅝- 4⅞	4¾- 5
36-38 Light straw distillate..	4½- 4⅝	- 4½	- 4½
32-36 Gas Oil.....	4⅜- 4½	4⅜- 4½	4⅜- 4½
18-22 Fuel Oil.....	1.30 -1.35	1.35 -1.40	1.35 -1.40
24-26 Fuel Oil.....	1.50 -1.55	1.50 -1.55	1.50 -1.55

*F. O. B. refinery, Kansas destination.

NORTH TEXAS			
38-40 Straw Distillate.....	4 - 4⅜	4 - 4⅜	4⅜- 4⅜
32-36 Gas Oil (Gal.).....	3¾- 4	3¾- 4	3¾- 4
24-26 Fuel per (Bbl.).....	-1.35	1.30-1.35	1.30 -1.40

GULF COASTAL	Prices May 24	Prices May 17	Prices May 10
Fuel.....	1.75 -1.85	1.75 -1.85	1.55 -1.65
Gas Oil.....	5½- 5¾	5¾- 5½	- 5¼
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)...	4 - 4¼	4 - 4¼	4 - 4¼
16-20 Fuel Oil (Bbl.).....	-1.30	-1.25	1.20-1.25
ARKANSAS			
32-36 Gas Oil.....	- 4½	4⅜- 4½	4¼- 4½
Smackover Crude Fuel.....	1.20 -1.30	1.12½-1.20	1.12½-1.20
Road oil.....	1.36½-1.47	-1.26	-1.26
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.).....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15

*(San Joaquin Valley, San Francisco 4c per bbl. more.)

NEW ENGLAND	(F. O. B. Boston and Fall River)		
*30-32 Gas Oil (Gal.).....	.....	5¾- 5⅞	5¾- 5⅞
*Fuel Oil (Bunker C) Bbl...	.....	-1.82½	-1.82½

PETROLATUMS

PENNSYLVANIA			
Snow White.....	-11	-11	-11
Lily White.....	- 9½	- 9½	- 9½
Cream White.....	- 6¾	- 6¾	- 6¾
Light Amber.....	- 5⅞	- 5⅞	- 5⅞
Amber.....	- 5⅜	- 5⅜	- 5⅜
Red.....	3¼- 3⅜	3¼- 3⅜	- 3¼
Green.....	1¾- 2	1¾- 2	1¾- 2

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

*No quotation.

(Continued from page 97)

can be checked, have been 12 cents per gallon on U. S. Motor gasoline. One refiner-marketer today reported one sale of 25 cars at that figure. Other quotations range up to 12½ cents. Few if any refiners are willing to commit themselves for over the entire month at a flat price anywhere near the present prices.

Naphtha production is still curtailed because of high kerosene prices, and the demand is increasing sufficiently to keep prices up to and in some instances above low gravity gasolines. Marketers report some difficulty in obtaining more than scattering cars of naphtha.

Low gravity gasolines are coming more to the front. One marketer today reported a sale of 25 cars of 56-58, 450 end point gasoline for over the first half of June at 11¾ cents per gallon. While buying is not brisk at present several refiners are preparing to include this product in their cuts beginning around June 1.

Small Export Purchase

HIGH gravity gasolines have caused the most trouble for refiners who make them. Exporters have remained out of the market for some time, except for the purchase Thursday of approximately a million gallons of 64-66, 375 e.p. gasoline by the Atlantic Refining Co. at the Standard of New Jersey posted price, 12.40 cents per gallon f.o.b. north Texas refineries.

Many refiners have continued to make high gravity goods in anticipation of export buying. Domestic demand has not been sufficient to take up the slack, and considerable distress light gasoline is on hand.

Some 64-66 is known to have been offered to exporters within the last two weeks at unusually low prices but almost without exception they have informed refiners there were no buying orders from abroad, and that they already had bought to the limit in an effort to give refiners as much relief as possible.

The Atlantic's purchase was made up primarily from distress goods where refiners were willing to sell a few cars at that price in order to tide them over.

The long-awaited advance in export prices by the Standard of New Jersey at the Gulf was announced today to become effective May 24. This advance is ½ cent per gallon, and refiners are hopeful that it will at least hold the prices of high gravities at the present quotation levels.

An example of the situation into which the higher gravities had fallen is shown by the statement of two or three refiners who this week declared they were going to use their light gasoline for blending in place of natural gasolines unless purchases were made within a short time.

Naturals Also Suffered

Natural gasolines meanwhile have suffered along with straight-runs. The better-business-in-May which was generally predicted the first of the month has failed to materialize. Manufacturers who were in a position to hold their material continued to ship only on contracts, but others who were not so fortunately situated, had to make concessions at times.

The naturals market Saturday was ¼ to ½ cent below the first of the week, and material was not in demand. Shipments on spot orders were in small lots.

Kerosenes apparently have begun to slip. More kerosene is being offered on the open market than has been the case for several weeks. Stocks have been slowly increasing as more refiners produced kerosene. Demand has begun to slow up somewhat, and may show a decided letup in both June and July some refiners fear. Buying for fall demand is expected to start in August, however, and it is doubtful if kerosene prices will have a chance to slip far before new buying starts them upward again.

Distillates also have become freer although stocks are still low. Gas oil is hovering around 4 cents in Oklahoma and tending to become lower as more cracked stuff is offered on the open market.

Fuel Prices Lower

FUEL oils slipped 2½ to 5 cents a barrel this week. Prices have been expected to break for some time but demand has held up sufficiently to give refiners backing in their quotations. Stocks have begun to increase, however,

(Continued to page 102)

Market Section

Gasoline Quiet in Chicago Resale Market Because of Weather

CHICAGO, May 22.—The weather again enters as the most important factor in the Chicago gasoline market. Gasoline sales in Chicago this week have been negligible due largely to the fact that jobbers' storage is well filled and weather throughout the middle west has not been conducive to motoring.

In spite of the slow tone it is hard to find a refiner in Chicago who is pessimistic. It is generally said that most of the marketable gasoline is in the hands of jobbers and not in storage in the field, consequently, refiners are holding tight and not pushing sales. Prices are firmly held.

The marketers' situation is distinctly different. The slow-up in demand has forced the marketer to drop his prices materially under the refinery market in order to keep moving the stuff he has in transit. However, the holdings of marketers are not sufficient actually to break the market.

Spot sales, generally speaking, have been confined to distress stuff moving from ¼ to ½ cent under the refinery market. The bulk of 58-60 U. S. Motor gasoline sold through Chicago has moved at 11¾ cents. In a few instances 12 cents has been obtained and 11¾ cents has been shaded. Movement of the 58-60, 450 end point gasoline equalled the volume of the Motor grade again this week, the 450 end point goods averaging 11½ cents. This price likewise can be shaded. On Friday seven cars of this grade on which the dealer needed immediate instructions, were sacrificed at 11 cents.

Little June buying has been heard of. A Michigan jobber on Thursday entered the market for 1,000,000 to 1,250,000 gallons of 58-60 U. S. Motor gasoline for shipment over June. Up to the close of business Saturday, none of the business had been placed.

The kerosene market has eased off slightly. Demand from the jobbing trade continues fairly good but kerosene is more freely offered in the field. The bulk of 41-43 sales early in the week was bringing 10½ cents but the average price in the last three days was 10¼ cents. A few sales, however, at 10½ cents were reported on Thursday and Friday. The 42-44 water white kerosene is held at 10¾ cents by the few refiners handling it.

Distillate is slow but refiners have already begun to stock up on home furnace oil for next season and offerings on the spot market are small. The 38-40 gravity distillate is held at 4⅝ to 4¾ cents.

The heavy oils are easier in tone, but demand is holding fairly steady for the off season. Gas oil of 32-36 gravity is bringing 4 to 4¼ cents. The 18-22 gravity fuel oil is largely held at $1.25 to $1.30 and 22-26 gravity at $1.30 to $1.32½. Smackover coming through on old orders is available to the trade at $1.17½ cents but most marketers are asking $1.20 to $1.22½ for new business.

(Continued from page 101)

after several weeks in which steady withdrawals were recorded. Refiners are taking that factor into consideration in their quotations for over June.

Louisiana probably will be in the best position of any area this year on fuel oil. Virtually the year's output has been purchased on contract by railroads in that territory, and what little spot fuel is available will be held at good prices.

The Texas fuel market was strengthened somewhat by the purchase of approximately 20,000 barrels in the open market by the Missouri, Kansas & Texas railroad. This road has not been in the open market for fuel oil for over a year, their requirement having been supplied on contracts.

Refiners that manufacture neutral and cylinder stocks, announced immediately after the crude advance that new lists would be issued within a few days. They continued to quote their former prices, however, and today a majority of them stated they had not revised their lists but probably would do so before June 1. They were still quoting their former prices on inquiries.

The present price lists were issued soon after the crude advance on Feb. 1, and two or three refiners report they have had exceptionally good sales.

PLATT'S
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Petroleum Markets Every Day

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FROM May 1st to the 24th, PLATT'S OILGRAM sent 2,706 wires to subscribers on tank-wagon and crude price changes.

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Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of New Jersey—T.w. and s.s. prices gasoline advanced 1 cent, through territory, **May 21.**

Standard of New York—T.w. and s.s. prices gasoline advanced 1 cent, New York and New England, **May 24.**

Standard of Kentucky—T.w. and s.s. prices gasoline advanced 1 cent, through territory, **May 22.**

Standard of Louisiana—T.w. and s.s. prices gasoline advanced 1 cent in Louisiana and Arkansas, **May 21.**

Continental Oil—T.w. and s.s. prices gasoline advanced 1 cent generally in Colorado and Wyoming, **May 18.** T.w. price only on gasoline advanced 1 cent, generally through New Mexico, **May 22.** S.s. prices were unchanged, which makes a 2 cent spread at Albuquerque, instead of 3 cents as formerly.

Magnolia Petroleum—T.w. and s.s. prices gasoline advanced 1 cent, through territory, **May 20.** Correction: S.s. price of gasoline at Texarkana last week, through typographical error, was published as 20.5 cents. This should have been 22.5 cents. With the 1 cent advance on May 20, s.s. price on that date became 23.5 cents.

Canada—S.s. price gasoline advanced 1 cent, Cochrane, to 43 cents, including 3 cent state tax, **May 18.**

Atlantic Refining Co. on May 26 will advance the tank wagon and service station prices of gasoline and naphtha 1 cent in Pennsylvania and Delaware. Tank wagon price in those two states, without taxes, will be 20 cents. Last previous change on gasoline was 1 cent advance on May 3. Kerosene remains unchanged.

Kerosene Changes

Standard of Kentucky—Kerosene advanced 1 cent, **May 22.**

Standard of Louisiana—Kerosene advanced 1 cent, through territory, **May 21.**

Continental Oil—Kerosene advanced 1 cent generally, Colorado and Wyoming, **May 18.** Kerosene advanced 1 cent generally in New Mexico, Butte advanced 1 cent, and Helena, ½ cent, **May 20.**

Magnolia Petroleum—Kerosene advanced 1 cent, through territory, **May 20.**

Canada—Kerosene advanced 1½ cents, Cochrane, to 28 cents at tank wagon, **May 18,** and kerosene reduced, Vancouver, to 23 cents.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

These Prices in Effect May 24, 1926

S.O. NEW JERSEY TERRITORY

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Atlantic City, N. J.	19	0	19	*	16
Newark, N. J.	19	0	19	21	16
Annapolis, Md.	19	2	21	*	16
Baltimore, Md.	19	2	21	24	16
Cumberland, Md.	19	2	21	24	16
Washington, D. C.	19	2	21	24	16
Danville, Va.	19	4½	23.5	*	16
Norfolk, Va.	19	4½	23.5	26.5	16
Richmond, Va.	19	4½	23.5	26.5	16
Roanoke, Va.	19	4½	23.5	26.5	16
Petersburg, Va.	19	4½	23.5	*	16
Williamsburg, Va.	19	4½	23.5	*	16
Charleston, W. Va.	19	3½	22.5	25.5	16
Clarksburg, W. Va.	19	3½	22.5	25.5	16
Keyser, W. Va.	19	3½	22.5	*	16
Parkersburg, W. Va.	19	3½	22.5	25.5	16
Wheeling, W. Va.	19	3½	22.5	25.5	16
Charlotte, N. C.	19.5	4	23.5	26.5	16
Hickory, N. C.	19.5	4	23.5	*	16
High Point, N. C.	19.5	4	23.5	*	16
Mt. Airy, N. C.	19.5	4	23.5	*	16
Salisbury, N. C.	19.5	4	23.5	*	16
Charleston, S. C.	19.5	5	24.5	27.5	16
Columbia, S. C.	19.5	5	24.5	27.5	16

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	21	0	21	25	17
Albany, N. Y.	21	0	21	23	17
Buffalo, N. Y.	20	0	20	23	17
Rochester, N. Y.	21	0	21	25	15
Syracuse, N. Y.	21	0	21	23	16
Boston, Mass.	21	0	21	24	17
Augusta, Me.	21	3	24	27	17
Manchester, N. H.	21	2	23	27	17
Burlington, Vt.	21	2	23	25	17

*In steel barrels.

ATLANTIC REFINING

Pittsburgh, Pa.	19	0	19	*24	17
Philadelphia, Pa.	19	0	19	*24	17
Allentown, Pa.	19	0	19	*24	17
Erie, Pa.	17	0	17	*22	15
Scranton, Pa.	19	0	19	*24	17
Altoona, Pa.	19	0	19	*24	17
Dover, Del.	19	2	21	24	17
Wilmington, Del.	19	2	21	24	17
Providence, R. I.	20	1	21	23	17
Boston, Mass.	20	0	20	23	17
Springfield, Mass.	20	0	20	22	17
Worcester, Mass.	20	0	20	23	17
Hartford, Conn.	20	2	22	25	16
New Haven, Conn.	20	2	22	25	17

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	20	5	25	28	19
Louisville, Ky.	20	5	25	28	18
Covington, Ky.	19	5	24	27	19
Clarksdale, Miss.	19	4	23	26	17.5
Jackson, Miss.	19	4	23	26	16.5
Natchez, Miss.	18.5	4	22.5	25.5	17
Vicksburg, Miss.	18.5	4	22.5	25.5	17
Birmingham, Ala.	20	2	22	25	19.5
Mobile, Ala.	19	2	21	24	18
Montgomery, Ala*	21	2	23	26	20.5
Atlanta, Ga.	†21	3½	25	28	20
Augusta, Ga.	†21	3½	25	28	20
Macon, Ga.	†21	3½	25	28	20
Savannah, Ga.	†19	3½	23	25	18
Jacksonville, Fla.	19	4	23	26	18
Miami, Fla.	21	4	25	28	19.5
Tampa, Fla.	19	4	23	26	18
Pensacola, Fla.	17	4	21	24	18.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

S. O. INDIANA

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Chicago, Ill.	19	0	19	21	15.5
Decatur, Ill.	19.2	0	19.2	21.2	16
E. St. Louis, Ill.	18.1	0	18.1	20.35	15.1
Joliet, Ill.	19.4	0	19.4	21.4	16.2
Peoria, Ill.	19.2	0	19.2	21.2	16
Quincy, Ill.	19.2	0	19.2	21.2	15.8
Indianapolis, Ind.	19.2	3	22.2	24.2	16.2
Evansville, Ind.	19	3	22	24	16
South Bend, Ind.	19.4	3	22.4	24.4	16.4
Detroit, Mich.	19.8	2	21.8	23.8	16.7
Grand Rapids, Mich.	19.7	2	21.7	23.7	16.6
Saginaw, Mich.	19.9	2	21.9	23.9	16.8
Madison, Wis.	19.3	2	21.3	23.3	16
Milwaukee, Wis.	19.1	2	21.1	23.1	15.8
La Crosse, Wis.	20.2	2	22.2	24.2	16.9
Minneapolis, Minn.	20.2	2	22.2	24.2	17.1
Duluth, Minn.	20.5	2	22.5	24.5	17.1
Mankato, Minn.	20.1	2	22.1	24.1	16.9
Des Moines, Iowa	19.5	2	21.5	23.5	16.4
Davenport, Iowa	19.5	2	21.5	23.5	16.4
Sioux City, Iowa	19	2	21	23	16
Mason City, Ia.	19.5	2	21.5	23.5	16.4
St. Louis, Mo.	18.6	2	20.6	22.9	15.5
Kansas City, Mo.	††19.9	2	21.9	23.9	14.8
St. Joseph, Mo.	*19	2	21	23	15.4
Fargo, N. D.	21.9	1	22.9	24.9	19.1
Grand Forks, N. D.	22.2	1	23.2	25.2	19.4
Minot, N. D.	21.9	1	22.9	24.9	19.1
Pierre, S. D.	20.5	3	23.5	25.5	17.6
Huron, S. D.	19.5	3	22.5	24.5	17.6
Wichita, Kans.	17.8	2	19.8	21.8	15.8
Bartlesville, Okla.	17.8	3	20.8	22.8	15.8

†Dumps of 100 or more gallons at 18c per gallon.
*Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	20	2	22	*	16.75
Omaha, Neb.	19.25	2	21.25	23.25	16
McCook	20.75	2	22.75	24.75	17.5
Norfolk	19.75	2	21.75	23.75	16.5
North Platte	20.75	2	22.75	24.75	17.25
Scottsbluff	20.25	2	22.25	24.25	16.75

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	20	2	22	22	19
Pueblo, Colo.	20	2	22	24	19
Casper, Wyo.	20	2½	22.5	24.5	17.5
Cheyenne, Wyo.	21	2½	23.5	25.5	19
Butte, Mont.	22	2	24	24	21
Helena, Mont.	24	2	26	28	21
Salt Lake City, Utah.	22.5	3½	26	28	19
Boise, Ida.	24	3	27	29	21
Albuquerque, N. M.	23.5	3	26.5	28.5	21

S. O. CALIFORNIA

Phoenix, Ariz.	22	3	25	28	21.5
Los Angeles, Cal.	14.5	2	16.5	20.5	15.5
Fresno, Cal.	16.5	2	18.5	22.5	17.5
San Francisco, Cal.	16	2	18	22	15.5
Reno, Nev.	19.5	4	23.5	27.5	19
Portland, Ore.	16	3	19	23	16.5
Seattle, Wash.	16	2	18	22	16.5
Spokane, Wash.	20	2	22	26	20.5
Tacoma, Wash.	16	2	18	22	16.5

S. O. LOUISIANA

Little Rock, Ark.	17	4	21	24	16
Alexandria, La.	17	2	19	22	16
Baton Rouge, La.	16	2	18	21	14.5
Lake Charles, La.	17.5	2	19.5	22.5	16
New Orleans, La.	*17.5	2	19.5	22.5	15
Shreveport, La.	16	2	18	21	15
Lafayette, La.	17	2	19	22	15.5
Bristol, Tenn.	19.5	3	22.5	25.5	17.5
Chattanooga, Tenn.	19	3	22	25	17.5
Knoxville, Tenn.	19	3	22	25	18
Nashville, Tenn.	18	3	21	24	18
Memphis, Tenn.	17	3	20	23	17

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
All Ohio points	20	2	22	24	17

MAGNOLIA PETROLEUM

Muskogee, Okla.	16	3	19	22	16
Oklahoma City	16	3	19	22	16
Tulsa, Okla.	17	3	20	23	16
Fort Smith, Ark.	17	4	21	24	16.5
Little Rock, Ark.	17	4	21	24	16.5
Texarkana, Ark*	17.5	4	21.5	23.5	15
Dallas, Tex.	**	1	**	20	15
El Paso, Tex.	**	1	**	21	16
Fort Worth, Tex.	**	1	**	20	15
Houston, Tex.	**	1	**	20	15
San Antonio, Tex.	**	1	**	20	15

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

**Magnolia is maintaining only one price schedule in Texas—its retail schedule. This is in keeping with its new contract, effective May 5, which allows the dealer 3c off the retail price.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.&P. Naphtha	Cleaners Naphtha
Chicago	20	22	22
Detroit	21.2	23.7	23.7
Kansas City	20.2	22.2	22.2
Milwaukee	20.2	*24.7	*24.7
Minneapolis	21.5	*26	*26
St. Louis	19.4	21.9	23.2
New York	...	22	....

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Toronto	25.5	3	28.5	32	23
Ottawa	25.5	3	28.5	32	23
Cochrane	30.5	3	33.5	43	28
Ft. William	28.5	3	31.5	36	24.5

MANITOBA

Winnipeg	28.5	3	31.5	35	24.5

SASKATCHEWAN

Regina	30.5	0	30.5	35	27.5

ALBERTA

Edmonton	31.5	2	33.5	37	28.5
Calgary	29.5	2	31.5	35	26.5

BRITISH COLUMBIA

Vancouver	23	3	26	30	23

Quebec

Montreal	25.5	3	28.5	32	23
Quebec City	27.5	3	30.5	34	25
Three Rivers	27.5	3	30.5	34	25

NEW BRUNSWICK

St. John	28.5	3	31.5	35	26.5
Moncton	28.5	3	31.5	35	26.5

NOVA SCOTIA

Halifax	28.5	3	31.5	35	26
Sydney	30.5	3	33.5	35	26.5

PRINCE EDWARD ISLAND

Charlottetown	28.5	3	31.5	35	26

Note: In districts surrounding these points 1c additional is added to city price.

Market Section

Export Gasoline Advanced Half a Cent; Foreign Buyers Show More Interest

By Special Correspondent
NEW YORK, May 24

THE Standard Oil Co. of New Jersey this morning advanced the price of gasoline for export half a cent a gallon.

British buyers are showing more interest in gasoline than a week ago. Strengthening prices of the past week have stimulated foreign inquiries and refiners are confident of an active export demand for both gasoline and kerosene shortly. European consumption of gasoline is reported as heavier while cold weather prevails in France and Germany, increasing the use of kerosene in those countries.

Bulk kerosene was stronger at the close of the week. Gasoline also resumed the advance while lubricating oils, at the Gulf, showed a strong upward tendency. Pennsylvania lubes are dull but steady. Gas oil is firmer, waxes are in slightly better demand.

Export Gasoline—New York

Export demand for gasoline is still lagging, although the inquiry from England is much better. French buyers are also showing a keen interest regardless of the cold weather that has been prevailing in that country. At local refineries U. S. Motor has been advanced to 13½ to 14 cents a gallon, with very little available below this price. A large British buyer was negotiating with a leading Independent for a cargo of 45,000 barrels of U. S. Motor and 64-66 375 e. p. for June-July shipment but this deal has not yet been closed.

A Spanish buyer was in the market for 25,000 cases of U. S. Motor and 64-66 375 e. p. gasoline for July shipment and it is rumored that a leading Independent has booked this order, but details were withheld. A small exporter reported the sale of 15,000 cases of 64-66 375 e. p. for late June shipment to the Levant.

Export Gasoline—Gulf Ports

Both bulk and cased gasoline were stronger in the Gulf market last week. U. S. Motor was generally quoted at from 12¼ to 12½ cents a gallon, in bulk cargoes although reports were current that 12 cents could have been done on a bid. The price for 64-66 375 e. p. ranged from 14¾ to 15½ cents a gallon. One of the leading Independents expects to close a cargo of 35,000 barrels of U. S. Motor and 64-66 375 e. p. for June shipment to France. It was rumored that one of the leading refiners has booked a cargo of 45,000 barrels of U. S. Motor and 61-63 gravity 390 e. p. with a small quantity of water white kerosene for July shipment to the United Kingdom at 12¼, 15¼ and 9¼ cents respectively.

Domestic Gasoline—New York

Consumption continued to soar and all of the leading factors in this section are quoting 13½ to 14 cents a gallon, refinery while this price was also quoted at Philadelphia and Charleston, S. C. Jobbers have been buying more heavily, and the price in tank cars delivered to the trade is held at 14½ to 15 cents a gallon. The advance in the New Jersey tank wagon price is expected to be followed by a general advance all along the Atlantic seaboard soon.

Domestic Gasoline—Gulf Ports

Jobbing demand is much heavier, reflecting increased consumption and the price of U. S. Motor in tank cars at the refineries has been advanced to 12½ cents a gallon. Refiners are reluctant to sell beyond June delivery. Weather conditions have been favorable and all indications point towards a steady gain in consumption during the next few months. Tank wagon prices are expected to advance soon, due to the increase in bulk gasoline.

Export Kerosene—New York

Export demand for kerosene is spasmodic and not very heavy, although prices are higher owing to the depleted stocks. At local refineries water white was firm at 11½ to 12 cents a gallon while prime white was quoted at 11 cents a gallon. The advance in crude oil has also tended to strengthen this product. Stocks of kerosene abroad are reported very low, owing to the unusually cold weather that has been prevailing the past few weeks. Local exporters expected European marketers to start buying for their Fall requirements soon. Cased kerosene was quiet and unchanged.

Export Kerosene—Gulf Ports

Bulk kerosene resumed the upward movement. No bulk sales were reported but domestic consumption has been unusually large and stocks are very light. The price for water white ranges from 9¼ to 9½ cents a gallon in bulk while prime white is quoted from 8¼ to 8½ cents a gallon. Stocks in northern Europe are reported very small.

Cased kerosene was higher. Export demand is lagging. Water white in cases, cargo lots, is held at $2.10 a case while prime white is held at $1.95 a case. A Chinese buyer was inquiring for 40,000 cases of prime and water white for July shipment but this is still pending.

Domestic Kerosene

Consumption continues large and prices are firmly held. At Atlantic seaboard refineries water white is held at 11½ to 12 cents a gallon while in tank cars delivered to the trade the price is quoted from 12½ to 13 cents a gallon. Jobbers are buying ahead regardless of the proximity of the summer. At the Gulf, water white in tank cars at the refineries, the price is 11 cents a gallon.

Lubricants—New York

The export demand for lubricating oils was very disappointing throughout the week. Most of the larger foreign buyers who usually buy in lots of from 500 to 1000 barrels are now content with purchases 100 to 200 barrels. Pennsylvania cylinder stocks were steady. The advances in Mid-Continent and Gulf coast crudes had little or no effect on these oils. Cylinder stocks are plentiful, Pennsylvania 600 s. r. in

Exports From Tampico District

Company	March	April
Transcontinental Petroleum Co., (Standard of New Jersey)	2,593,915	1,343,359
Pan American Eastern Oil Co.	2,810,275	2,886,420
Mexican Eagle Oil Co., (El Aguila)	1,068,782	835,445
Cia. Mexicana Holandesa "La Corona"	932,172	687,980
The Texas Co. of Mexico, S. A.	53,878	250,051
Mexican Gulf Oil Co.	264,498	225,234
Sinclair Mexican Companies	513,511	386,298
East Coast Oil Co. of Mexico, S. A., (Southern Pacific)	108,610	3,385
Panuco-Boston Oil Co.	59,097	.....
Mexican Oil Products Co.	61,375	38,296
Empire Gas & Fuel Co.	137,195	160,729
La Espuela Oil Co.	189,988	277,207
Pierce Oil Corp.	4,503	167,550
Mexican Atlas Oil Co.	91,531	91,651
New England Fuel Oil Co.	.....	.....
Totals	8,889,330	7,353,555

barrels, New York, is freely offered at 22 to 22½ cents a gallon.

Lubricants—Gulf Ports

There has been a marked improvement in the lubricating oils. Domestic demand is much better and this, coupled with the advance in Gulf coast lubricants, has brought about slightly higher prices. It was rumored that a leading refiner has sold a cargo of 35,000 barrels of assorted lubricants for June-July shipment to the United Kingdom but details are lacking.

Waxes—New York

The undertone of this market is better than a week ago. United Kingdom buyers were more active, although purchases were still hand-to-mouth. There is less disposition to shade prices, while factors say there is little chance of an advance during the immediate future. Continental buyers were inquiring for larger quantities of white crude scale but confined their orders to five and ten-ton lots. White crude scale 122-124 A. m. p. is still held at 5⅛ cents a pound. Fully refined 120-122 and 123-125 A. m. p. are held at 6 cents while 125-127 is quoted at 6⅛ cents. Semi-refined was dull and unchanged.

Waxes—Gulf Ports

South American buyers are inquiring for larger quantities of white crude scale. Inquiries for 10-ton lots were more numerous than for several weeks. However, buying interest appears to be solely in nearby deliveries. Stocks are fairly large but holders are more confident, due to the keener buying interest and the strength in other petroleum products. White crude scale 124-126 A. m.p. was quoted at 5⅛ cents while semi-refined 124-126 was held at 5¼ cents. Fully refined 125-127 A.m.p. was held at 5⅞ cents while 128-130 A.m.p. was quoted at 6 cents. For 133-135 A.m.p. 6⅜ cents was quoted while 135-137 was held at 6⅝ cents.

Gas Oil—New York

Demand for gas oil has improved a little and the price of 36-40 is well held at 6½ cents a gallon, refinery, while 28-34 is quoted at 5¾ cents a gallon, same basis. Export buying interest is much keener, and a United Kingdom buyer is looking around for 28,000 barrels for June-July shipment to the United Kingdom. A Scandinavian buyer was inquiring for 30,000 barrels of transparent gas oil for July shipment, but details were lacking. Owing to the large quantities being cracked there is little offered for export.

Gas Oil—Gulf Ports

Leading refiners were asking 5½ cents for 26-28 transparent gas oil, although a little was still available at 5¼ cents on a bid. Dark, 32 plus was steady and in slightly better demand at from 5 to 5¼ cents a gallon. Gulf refiners are also cracking large quantities and there is little available for immediate shipment. Domestic consumption is much larger than expected. The demand from abroad is lagging.

Complete Export Markets

New York Export Market

GASOLINE	May 24	May 17
U. S. Motor Tank cars Ref.	13¾-14	-13½
U. S. Motor cases	29.40	-28.90
California grade U. S. Motor F. O. B. N. Y. Bulk	13½	-13½
KEROSENE		
41-43-150 W. W. Tank cars Ref.	11 -11½	-10½
41-43-150 W. W. Cases	20.15	-20.15
42-44-110 S. W. Cases	18.90	-18.90
GAS OIL		
36-40, Bulk Refinery	-06¾	-06½
28-34, Bulf Refinery	-05¾	-05¾
MEXICAN BUNKER OIL		
Grade C, f. o. b. ref. Bulk	1.75	- 1.75
Diesel Oil f. o. b. ref. Bulk	2.41½	- 2.41½

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (Bbls.) 1 inch Immersion Test; All Penna. Products		
Filtered D 600	29½	-29½
Filtered E 600	28	-28
Unfiltered 600 s. r.	22	-22
Unfiltered 650 s. r.	28½	-28½
600 flash s. r.	29	-29
630 Flash	41	-41
RED PARAFFIN (Bbls.) (Viscosity at 70)		
300 vis No. 5 color	21	-21
250 vis No. 5 color	20	-20
High Viscosity No. 5 color	25	-25
NEUTRAL OILS (Bbls.) (Viscosity at 70)		
200 vis. at F. Pale No. 3 color	-31	-31
180 Pale No. 3 color	-29	-29
150 Pale No. 3 color	-24½	-24½
BLACK OIL (Bbls.)		
25-30 cold test	13	-13
15 cold test	14¾	-14¾

MEDICINAL OILS
(Includes Price of Drums)
(Penna. Stocks)

	May 24	May 17
Domestic 875-.885 s. g.	-1.10	-1.10
Domestic 865-.870 s. g.	.85- .90	.85- .90
Russian 885-.890 s. g. 325-350 vis	1.10-1.25	1.10-1.25

WAXES
(Penna. Stocks)
(F. A. S. Carload Lots)

WHITE CRUDE SCALE		
122-124 A. m. p.	-05⅛	-05⅛
124-126 A. m. p.	-05⅛	-05⅛
MATCH		
105-108 A. m. p.	-06	-06
FULLY REFINED		
120-122 A. m. p.	-06	-06
123-125 A. m. p. Philadelphia	-06	-06
125-127 A. m. p.	-06⅛	-06⅛
128-130 A. m. p.	-06¼	-06¼
130-132 A. m. p.	-06⅜	-06⅜
133-135 A. m. p.	-06⅜	-06⅜
135-137 A. m. p.	-06¾ 07	-06¾-07
SEMI REFINED		
122-124 A. m. p.	-05¼	-05¼
YELLOW CRUDE SCALE		
124-126 A. m. p.	-05	-05

PETROLATUMS
(Penna. Stocks)
Per Pound

Dark Green	03	03
Veterinary	03¼	03¼
Light Amber	03¼	03¼
Dark Amber	03¼	03¼
Cream	-06½	06¾
Lily White	-08¾	08½
Snow White	11 -11¾	11¾-11¾

Gulf Export Market

GASOLINE
F. O. B. Seaboard
Shipments of 20,000 Bbls. and over

	May 24	May 17
U. S. Motor, Cargo	12¼-12½	12 -.12½
60-62 400 e. p. Bulk	13½	-.13½
64-66 375 e. p. Bulk	14¾-15¼	14¾-.15¼
U. S. Motor, Cases (cargo lots)	2.30	2.30
64-66, Cases (cargo lots)	2.60	2.60
KEROSENE		
Water White, 41-43 bulk	09¼-09½	09¼-09½
Prime White, 42-44 bulk	08¼-08½	08¼-08½
Water White, cases (cargo lots)	2.05	-1.95
Prime White, cases (cargo lots)	1.95	-1.85
DOMESTIC GAS AND BUNKER OIL		
26-28, gravity, bulk*	05¼-05½	05¼-05½
32 plus, bulk, Dark	05	-05
Grade C, Bunker oil	1.60	-1.60
Cargoes	1.45	-1.45

*Transparent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS
F. O. B. Steamer Tampico

Heavy, Taxes to be added	nom.	-1.20
Grade C, Bunker oil Taxes paid	1.40-1.45	1.40-1.45
Grade C, Bunker oil F. O. B. New Orleans	1.55	-1.55

SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

*LUBRICATING OILS	May 24	May 17
100 Vis. No. 2 Unfiltered Pale	07	07
150 Vis. No. 2½ Unfiltered Pale	09¼	09¼
200 Vis. No. 3 Unfiltered Pale	11	11
300 Vis. No. 3 Unfiltered Pale	13½	13½
500 Vis. No. 3½ Unfiltered Pale	15½	15½
200 Vis. No. 5½ Red Oil	11	11
300 Vis. No. 5½ Red Oil	12¼	12¼
500 Vis. No. 6 Red Oil	13½	13½
800 Vis. No. 6 Red Oil	17	17

*These prices are entirely nominal owing to wide fluctuations.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles)

	May 24	May 17
Gasoline, U. S. Motor— 54°-56°	11 -11¼	11 -11¼
Gasoline, U. S. Motor— blends and special cuts	11¼-11½	11¼-11½
Gas Oil, 24°—30°B. per bbl.	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl.	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl.	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl.	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	.05¾-06¾	.05¾-.06¾
Cased Goods		
Gasoline, U. S. Motor	$2.55	$2.55
Kerosene, W. W. 38°—40° B per case, flash test 125-150	$1.50-1.55	$1.50-1.55

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	May 24	May 17
U. S. Motor Gasoline, Tank Cars Delivered greater N. Y.	14½-15	-14½
U. S. Motor Gasoline, Tank Cars Bayonne	13½-14	-13½
U. S. Motor, Tank Cars, *Atlantic Seaboard Terminals	13½-14	-13½
Kerosene, 41-43 150 W. W. Tank Cars De'd greater N. Y.	-11½	-.11½
GradeCBunker f.o.b.N.Y.Ref.	1.75	1.75
Diesel Oil f. o. b. Refinery	2.41½	2.41½
Gas Oil, 36-40, Bulk Refinery	-06½	-06½
Gas Oil 28-34 Bulk, Refinery	-05¾	-05¾

*New York, Philadelphia, Portsmouth, Va. Charleston, S. C.

Crude Oil Prices All Fields

PRICES IN EFFECT, *May 24*

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.65
Bradford District Oil in National Transit Lines (Bradford District)	3.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.30
Keister Grade in National Transit Lines (Butler Co.)	2.45
Gaines, Tioga Co. (Pa.)	3.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.40
Corning Grade in Buckeye Pipe Lines (Ohio)	2.55
*Somerest Medium in Cumberland Pipe Lines (Kentucky)	2.50
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.65
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.25

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Wooster	$2.55	Illinois	$2.37
Lima	2.48	Plymouth	1.90
Waterloo	1.35	*Canadian Petrolia	2.88
Indiana	2.25	*Posted by Imperial Oil, Ltd.	
Princeton	2.37		

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS

(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and Central Texas)

28-28.9	$1.65	41-41.9	$2.69
29-29.9	1.73	42-42.9	2.77
30-30.9	1.81	43-43.9	2.85
31-31.9	1.89	44-44.9	2.93
32-32.9	1.97	45-45.9	3.0
33-33.9	2.05	46-46.9	3.09
34-34.9	2.13	47-47.9	3.17
35-35.9	2.21	48-48.9	3.25
36-36.9	2.29	49-49.9	3.33
37-37.9	2.37	50-50.9	3.41
38-38.9	2.45	51-51.9	3.49
39-39.9	2.53	52 and above	3.57
40-40.9	2.61		

Effective May 15, The Texas Co. posted same gravity and price schedule as Prairie in Oklahoma, Kansas, North, North Central and Central Texas fields.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes all in Texas.)

Effective May 15, Humble posted same gravity and price schedule in all the above fields as that posted by Prairie, excepting that Humble is paying 8c less for each full degree below 28 gravity.

Mirando, Tex	$1.25

Magnolia Petroleum Co. Prices In Oklahoma, Kansas and North Texas

Effective May 15, Magnolia posted same gravity and price schedule as Prairie, in all fields where it purchases on a gravity basis, excepting that it is paying $1.30 for all oil below 28 gravity.

Effective May 15, Corsicana heavy was advanced to $1.25 per barrel.

NORTH LOUISIANA—ARKANSAS FIELDS

***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$2.10
" below 32-34.9	2.25
" 35-37.9	2.35
" 38 and above	2.45
Homer, below 31	1.85
" 31-32.9	2.00
" 33-34.9	2.10
" 35 and above	2.20
Haynesville, below 33	2.00
" 33 and above	2.10
El Dorado, including Lisbon, below 33	2.00
" 33-34.9	2.10
" 35-36.9	2.20
" 37 and above	2.30
Bull Bayou, 32-34.9	1.95
" 35-37.9	2.10
" 38 and above	2.25
Smackover, below 24	1.10
" 24-24.9	1.35
" 25-25.9	1.40
" 26-26.9	1.45
" 27 and above	1.50
De Soto	2.30
Crichton	2.10
Bellevue	1.50
Cotton Valley	1.20
**Urania, La	1.30

*Same prices maintained by The Texas Co., excepting on Caddo below 32 which was unchanged by The Texas Co. at $1.85. Gulf Refining Co. of Louisiana and Louisiana Oil Refining Corp. are also paying same prices as Standard in fields where they purchase. All purchasers of Smackover are maintaining the same gravity and price schedule as Standard. Gulf is paying 95c for Calion (East El Dorado Crude.)

**Posted by Louisiana Oil Refining Corp.

STEPHENS, ARKANSAS

Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.65	Below 26	$1.45

GULF COASTAL FIELDS

Posted by Humble Oil & Refining Co.

Grades A	$1.60	29-29.9	$1.75
Grades B:		30-30.9	1.80
Below 25	1.50	31-31.9	1.85
25-25.9	1.55	32-32.9	1.90
26-26.9	1.60	33-33.9	1.95
27-27.9	1.65	34-34.9	2.00
28-28.9	1.70	35 and above	2.05

Humble is paying the above prices in Goose Creek, Hull, Liberty, West Columbia, Orange and Pierce Junction fields. All other Gulf Coastal crudes are classified as A grades only. Other major purchasers are The Texas Co., Gulf Production Co., Sun Oil Co., and Sinclair Crude Oil Purchasing Co.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek	29-29.9		$1.73
" "	30-30.9		1.81
" "	31-31.9		1.89
" "	32-32.9		1.97
" "	33-33.9		2.05
" "	34-34.9		2.13
" "	35-35.9		2.21
" "	36-36.9		2.29
" "	37 and above		2.37
Elk Basin			2.40
Grass Creek light			2.40
Big Muddy			2.25
Lance Creek			2.40
Rock Creek			2.25
†Osage			2.40
†Cat Creek, Mont			2.40
Sunburst, Mont			1.05
†Hogback, N. Mex			2.45
Artesia, N. Mex			2.20

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by *Union Oil Co.

Gravity	Signal Hill Huntington Beach	Ingle-wood Torrance	Newhall, McKittrick, Whittier La Habra	Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Monte-bello	Coyote Hills	Santa Fe Springs	Midway-Sunset Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	.....	$ .85	$ .85	.....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.87	.87	.85	.75	.87	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
16-16.9	.90	.90	.85	.75	.90	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
17-17.9	.94	.94	.85	.75	.94	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
18-18.9	.98	.98	.86	.75	.98	.....	.86	.86	.....	.75	.75	.75	.75	.85	.85
19-19.9	1.04	1.04	.87	.75	1.04	.....	.87	.87	.....	.75	.75	.75	.75	.85	.85
20-20.9	1.10	1.10	.89	.....	1.10	.....	.89	.90	.....	.82	.82	.79	.78	.90	.90
21-21.9	1.16	1.16	.91	.....	1.16	.....	.91	.98	.....	.90	.90	.86	.81	.97	.97
22-22.9	1.22	1.22	.94	.....	1.22	.....	.94	1.06	.....	1.00	1.00	.93	.85	1.04	1.04
23-23.9	1.28	1.28	.....	.....	1.28	.....	.97	1.14	.....	1.11	1.11	1.00	.89	1.11	1.11
24-24.9	1.34	1.34	.....	.....	1.34	$1.34	1.01	1.22	1.02	1.22	1.22	1.07	.93	1.18	1.18
25-25.9	1.40	1.40	.....	.....	1.40	1.40	1.05	1.30	1.08	1.33	1.33	1.14	.97	1.25	1.25
26-26.9	1.46	1.46	.....	.....	1.46	1.46	1.09	1.38	1.16	1.44	1.44	1.21	1.01	1.32	1.32
27-27.9	1.52	1.52	.....	.....	1.52	1.52	1.13	1.46	1.24	1.55	1.55	1.28	1.05	1.39	1.39
28-28.9	1.58	1.58	.....	.....	1.58	1.58	1.17	1.54	1.32	1.66	1.66	1.35	.....	1.46	1.46
29-29.9	1.64	.....	.....	.....	1.64	1.64	1.21	1.62	1.40	1.77	1.77	1.42	.....	1.53	1.53
30-30.9	1.70	.....	.....	.....	1.70	1.70	1.25	1.70	1.48	1.88	1.88	1.49	.....	1.60	1.60
31-31.9	1.76	.....	.....	.....	.....	1.76	.....	.....	1.60	1.99	1.99	1.56	.....	.....	1.67
32-32.9	1.84	.....	.....	.....	.....	1.84	.....	.....	1.72	2.10	2.10	1.63	.....	.....	1.73
33-33.9	.....	.....	.....	.....	.....	1.92	.....	.....	1.84	2.21	2.21	1.70	.....	.....	1.79
34-34.9	.....	.....	.....	.....	.....	2.00	.....	.....	1.96	.....	2.32	1.77	.....	.....	1.85
35-35.9	.....	.....	.....	.....	.....	2.08	.....	.....	2.08	.....	.....	1.84	.....	.....	1.92
36-36.9	.....	.....	.....	.....	.....	2.16	.....	.....	2.16	.....	.....	.....	.....		
37-37.9	.....	.....	.....	.....	.....	2.24	.....	.....	2.24	.....	.....	.....	.....		
38-38.9	.....	.....	.....	.....	.....	2.34	.....	.....	2.34	.....	.....	.....	.....		
39-39.9	.....	.....	.....	.....	.....	2.44	.....	.....	2.44	.....	.....	.....	.....		
40-40.9	.....	.....	.....	.....	.....	2.54	.....	.....	.....	.....	.....	.....	.....		
41-41.9	.....	.....	.....	.....	.....	2.64	.....	.....	.....	.....	.....	.....	.....		
42-42.9	.....	.....	.....	.....	.....	2.74	.....	.....	.....	.....	.....	.....	.....		

*Union Oil Co. also purchases Long Beach crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees; and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	May 24	May 17
Soda Ash light 58% bags.cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.65	- 1.65
Sal Soda wks.....1.10-	1.25	1.10- 1.25
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	- 2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	10.00 11.00	10.00-11.00
Liquid Chlorine tank cars works.....lb.	- .04	- .04

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	10.7	10.8
May.....	10.7	10.8
Tanks, spot.....	09.7	09.8
Boiled carloads spot.....lb.	09.8	09.9
*Soya Bean spot, Bbls....lb.	13¼	13¼
Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.09½	-.09½
Oleic Acid—		
Dist. Bbls.....lb..10	-.10½	.10 -.10½
Saponified Bbls.....lb..10½	-.11	.10½-.11
Castor Oil—		
No. 1 Carlots, Bbls.....	-.13¼	-.13¼
No. 3 Carlots, Bbls.....	-.12¾	-.12¾
Lard Oils—		
Prime		
Winter Strained. to 1½ffa.40/45c.t.lb.	.17¾	.17¼
Extra		
Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.14½	.14
Extra..... 4 to 5 ffa.40/45c.t.lb.	.13	.13
Extra No.1 7 to 10 ffa.40/50c.t.lb.	.12½	.12½
No. 1.....15 to 18 ffa.40/45c.t.lb.	.12¼	.12¼
No. 2.....22 to 23 ffa.40/45c.t.lb.	.12	.12
Prime Edible Tallow under 1¾ffa. 40/45c.t.N.Y.....lb..09¼	-.09½	-.09½
Tallow acidless.....lb.	-.12	-.11¾
Lard Stearine.....lb.	nominal	nominal
Oleo Stearine.....lb.	-.13	-.13
Neatsfoot Oil—		
Pure.....bbls.-lb.	.16¼	.16¼
Extra.....do lb.	.12½	.12½
No. 1.....bbls.-lb.	.12¾	.12¼
Cold pressed.....lb.	-18¾	.18¼
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.65	-.65
White.....gal.	-.67	-.67
Yellow bleached.....gal.	-.70	-.70
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal.....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	.84	.90
Turpentine†.....gal.	.78	.83½
Rosin, B. N. Y.....bbl.	9.25	9.50
Rosin, F. N. Y.....bbl.	11.75	11.75
Rosin, B†.....bbl.	7.75	8.00
Rosin, F†.....bbl.	10.25	10.25
Rosin Oil 1st run.....gal.	.59	.59
Rosin Oil 2nd run.....gal.	.64	.65
Pine Tar—		
Kiln Burnt.....bbl.	14.50	14.50
Retort.....bbl.	15.50	15.50
Alcohol—Denatured		
Formula 5		
Bbls.....gal.	.34	-34
Drums.....gal.	-28	-28

†Savannah, Ga. market.
*Nominal.

Crude, Gasoline Stocks Fall Off in April

NEW YORK, May 22.—A preliminary report of the American Petroleum Institute for April shows that pipe line and tank farm gross domestic crude stocks, east of the Rocky Mountains, decreased 2,467,000 barrels, as compared with a decrease of 3,881,000 barrels in March. Domestic crude stocks at refineries increased 1,674,000 barrels during April, as compared with an increase of 742,000 barrels in March, according to returns from representative refineries reporting to the Institute, covering approximately 77 per cent of their operating capacity during April.

Gasoline stocks east of the Rockies during April showed a draft of 16,212,000 gallons, as compared with a decrease of 15,750,000 gallons in March.

Kerosene stocks increased 14,742,000 gallons in April, as compared with an increase of 13,776,000 gallons in March. Gas and fuel oil stocks decreased 32,970,000 gallons, and lube oil stocks decreased 336,000 gallons.

Pennsylvania Market Shows Strength

Following the numerous crude and tank wagon advances of the past week the Pennsylvania market has taken on a noticeable activity. Earlier in the week very little gasoline was moving. It was reported that most of the sales were made to brokers. Refiners report that the jobbers have entered the market and gasoline shipments have increased materially during the last few days. U. S. Motor gasoline has advanced from 13½ and 14 cents to 14½ and 15 cents over the week end. Naphthas are becoming more scarce, 54-56 naphtha is quoted at 13¾ to 14 cents. The kerosene market remains tight and stocks are hard to find. Several refiners report their output sold up for the month of June. The latest quotations on 45 water white have been 12½ to 13 cents.

Cylinder stocks have recorded increased demand for 600 grade but a wide range of quotations are found. Bright stocks are becoming more scarce. Petrolatums and wax have remained steady and firm.

Benzol Growing Scarcer

By Special Correspondent

NEW YORK, May 24.—The motor benzol supply situation is becoming tighter. The big marketers are offering very sparingly and no sizable sales have been reported. There is a heavy contract delivery going on which is keeping stocks from piling up. The demand for future shipment is much more active than anticipated.

Spot motor benzol in tank cars at the ovens, is scarce and still quoted at 24 cents a gallon. Production is falling owing to the drop in the coke output. Pure and 90 per cent benzol are also firm under a growing demand. Stocks on spot are small.

West Virginia Marketers to Meet

CHARLESTON, W. VA., May 24.—The annual meeting of the West Virginia Oil Marketers Association will be held on June 15 and 16 at Huntington, W. Va., according to D. E. Frierson, secretary and treasurer.

Gulf Coastal Lubricant Demand Is Increasing

HOUSTON, May 22.—Advancing crude prices and better weather stimulated jobbing demand for Gulf Coastal lubricants last week. Virtually all grades reflect increases, approximating a half cent per gallon. Most grades advanced immediately after the Gulf Coastal crude increase of May 15, but those which did not do so then have since been advanced. Little price shading exists in either the domestic or the foreign market.

Cargo prices for export are nearly always somewhat lower than those prevailing for tank car shipments because of the quantities involved. Cargo lot prices also are showing considerably firmer tone and reflect higher crude costs.

* * *

Correction—In May 19 issue of National Petroleum News quotation on 200 vis. unfiltered pale Gulf Coastal neutral should have been 12-12½ cents instead of 11½-12 cents.

Eastern and Central Kentucky Markets

LEXINGTON and ASHLAND, May 24.—Gasoline is more quiet and shipments are not moving in as great volume as previous week. Lower prices today are expected to help increase sales. Kerosene is very scarce and only a small amount is available in eastern district. Prices today are:

	Eastern	Central
58-60 gasoline	14½	13¾
60-62 gasoline	15	15
64-66 gasoline	15¼	15¾
68-70 gasoline	15½	....
41-43 w.w. kerosene	12½	....
24-26 fuel oil	5⅛	5⅛
Gas oil	6½	6

Pure Oil Earnings in Last Fiscal Year Largest in Its History

Staff Special

CLEVELAND, May 22

PURE OIL CO. in its fiscal year ended March 31, 1926, did a larger gross and net business than in any year since its formation 12 years ago. Net earnings after all charges and reserves but before giving account to surplus adjustment, a credit of $58,077, amounted to $12,922,302 equivalent after preferred dividends to $3.70 a share on the 3,038,370 $25 common shares outstanding at the end of the fiscal year.

Net earnings for the fiscal year ended March 31, 1925, were equivalent after preferred dividends and before deducting surplus adjustment for that year, to $3.10 on 2,860,196 shares. Earnings on the common for the three preceding fiscal years were $3.60, $1.71 and 28 cents a share, respectively.

Expands Operations

PURE OIL CO. last year expanded its operations in all three major divisions of the industry. It purchased the producing properties of the Humphreys-Boyd Oil Co. and issued $4,454,350 of common stock for the purpose. It modernized and rebuilt its Marcus Hook, Pa., refinery and enlarged its Muskogee, Okla., and Heath, O., plants, President Henry M. Dawes said in a letter to stockholders. Marketing facilities were increased, particularly in the southeastern states.

It disposed of its stock in the Pure Oil Pipe Line Co. of Texas but by doing so made arrangements which fortify the crude supply of the Smiths Bluff, Texas, and Marcus Hook refineries, Mr. Dawes said. The pipe line interest was sold to the Prairie Pipe Line Co.

The balance sheet of March 31 shows an increase of more than $6,000,000 in valuation of property, plant and equipment during the year and of more than $1,000,000 in investments.

$20,286,638 Working Capital

CURRENT assets on March 31 amounted to $28,847,695 and current liabilities to $8,561,057, leaving net working capital of $20,286,638. Ratio of current assets to current liabilities was 3⅓ to 1. Funded debt was reduced 50 per cent to $10,430,000. On March 31, 1925, current assets were $34,589,460, current liabilities $12,831,774, and net working capital $21,831,774.

During the 30 days the employes' stock purchase plan was open 4175 out of 5450 eligible employes subscribed for $4,325,700 6 per cent preferred stock. The plan does not contemplate the issuance of any new stock, Mr. Dawes said. A contributory group insurance fund was put into effect last year, to which 95 per cent of the eligible employes subscribed.

Pure Oil Co. and Subsidiaries' Consolidated Income Statements

	1926	1925	1924	1923	1922
Gross earnings	$118,715,184	$104,397,303	$ 87,432,424	$ 69,153,736	$ 60,722,417
Costs, operating expense	96,726,230	84,441,312	68,250,558	57,693,198	51,779,290
Net operating income	$ 21,988,954	$ 19,955,991	$ 19,181,866	$ 11,460,538	$ 8,943,127
Other income	2,812,772	.....	.....	.....	.....
Total income	$ 24,801,726	$ 19,955,991	$ 19,181,866	$ 11,460,538	$ 8,943,127
Taxes, interest, etc.	3,536,587	1,926,102	906,259	247,672	957,100
Depreciation, depletion	8,342,837	7,477,029	6,600,106	5,368,477	6,194,232
Net profits	$ 12,922,302	$ 10,552,860	$ 11,675,501	$ 5,844,389	$ 1,791,795
Preferred dividends	1,670,503	1,668,890	1,667,693	1,427,754	1,201,180
Common dividends	4,937,516	4,263,591	4,544,885	5,162,839	4,034,940
Surplus	$ 6,314,283	$ 4,620,379	$ 5,462,923 *$	746,204 *$	3,444,325
Surplus adjustments	†58,077	‡771,577	‡989,492	‡861,969	‡1,276,056

*Deficit †Add ‡Deficit

Pure Oil Co. and Subsidiaries' Consolidated Balance Sheets as of March 31

	1926	1925	1924	1923	1922
ASSETS					
Plant, equipment, etc.	$184,374,270	$178,246,438	$149,210,263	$126,193,898	*$ 98,876,552
Other investments	4,049,261	2,987,927	20,583,685	19,310,460	16,519,016
Stock in treasury	316,000	316,000	316,000	316,000	316,000
Cash	3,140,021	3,198,614	8,521,451	3,977,275	4,434,281
Marketable securities	250,000	19,331	69,002	7,192,882	7,168,136
Accounts receivable	5,116,977	5,192,619	5,330,962	5,477,714	4,621,308
Notes, acceptances	738,824	456,427	3,165,479	3,887,860	687,272
Oil, finished	5,716,077	8,055,506	6,661,416	7,836,759	7,401,699
Oil, crude	10,014,127	14,088,371	12,748,959	1,527,467	2,787,600
Materials, supplies	3,871,669	3,518,591	2,901,898	2,255,852	2,016,521
Deferred charges	1,333,089	1,670,123	1,981,742	1,453,228	1,149,170
Total	$218,920,315	$217,809,948	$211,490,856	$179,429,394	$145,977,555
LIABILITIES					
Common stock	$ 75,959,250	$ 71,504,900	$ 70,091,425	$ 64,679,350	$ 52,882,625
Preferred stock	23,000,000	23,000,000	23,000,000	23,000,000	20,000,000
Moore Oil preferred	800,000	800,000	800,000	800,000	800,000
Funded debt	10,430,000	20,813,500	28,055,000	4,026,000	11,059,000
Accounts payable	2,724,629	2,841,778	2,297,450	2,557,741	2,234,859
Notes payable	4,350,000	9,100,000	7,375,100	11,392,500	11,565,360
Accrued taxes	1,252,605	460,668	283,310	391,086	384,020
Accrued interest	233,823	355,240	417,544	72,324	259,689
Consumers' deposits	.....	.....	.....	302,779	286,440
Depreciation, depletion res.	40,403,351	35,585,094	29,698,916	27,340,478	.....
Other reserves	265,758	220,227	192,273	60,827	91,080
Surplus	59,500,899	53,128,541	49,279,738	44,806,309	46,414,482
Total	$218,920,315	$217,809,94'	$211,490,856	$179,429,394	$145,977,555

*Less depreciation.

Superior Oil Reports Larger Loss in 1925

NEW YORK, May 22.—Superior Oil Corp. reports a net loss of $737,862 for 1925 compared with net loss of $350,032 in 1924. Consolidated income accounts for 1925 and 1924 compare:

	1925	1924
Gross income	$1,291,317	$1,375,799
Operating expense	627,738	334,218
Abandoned leases	226,640	.....
General expense	192,978	215,297
Depletion	478,404	606,689
Depreciation	503,419	569,628
Net loss	$ 737,862	$ 350,033

Consolidated balance sheets as of Dec. 31 compare:

	1925	1924
ASSETS		
Leaseholds, plant & equip.	$4,787,547	$5,247,856
Org. expense	.....	103,295
Bond disc. & exp.	.....	56,249
Other def. chgs.	64,532	26,081
Cash	192,190	458,599
Accts. & bills rec.	535,508	475,077
Inventories	527,782	538,205
Transp. rev. rec.	.....	872
Total	$6,107,559	$5,905,361
LIABILITIES		
Capital stock	$8,308,215	$8,257,815
Funded debt	690,200	714,200
P. & L. deficit	3,087,335	2,246,178
Notes payable	100,000	.....
Accts. payable	42,993	130,278
Accruals	53,486	49,246
Total	$6,107,559	$6,905,362

Union Oil Profits Increase

LOS ANGELES, May 24.—Union Oil Co. of California reports net profit of $2,700,000 for first quarter of 1926 after all charges and reserves, including estimated federal income taxes, compared with $2,550,000 in first quarter of 1925. Sales for the three months approximated $17,370,000, a gain of $70,000 over the corresponding period of 1925. Current assets in March 31, $56,000,000, were 7½ to 1 of current liabilities.

Production in the quarter was 3,550,000 barrels, a decrease of 350,000 barrels from the first quarter production in 1925, and a week ago was averaging 40,000 barrels daily, President W. L. Stewart reported.

S. O.—General Merger Approved

CLEVELAND, May 22.—No violation of the Sherman anti-trust law was found by the Department of Justice in the consolidation of the Standard Oil Co. of New York and the General Petroleum Corp. of California, Attorney General Sargent has announced at Washington. "The business of the two companies was purely complementary and not competitive," the attorney general said.

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended May 22 Sales	First	High	Low	Last	Ch'ge
.....	.....	26¼	24¼	(sh)	713,000	N.P.	Amerada Corp.	40cQ	Apr. 30, 26	4,300	24½	25	24¼	25	+ ¼
79¾	48	74	63	(sh)	200,000	N.P.	American Republics	.....	.....	.....	.....	.....	.....	.....	.....
47½	32	59½	44¾	$	56,000,000	$25	Associated Oil	50cQ	Apr. 26, 26	.....	.....	.....	.....	.....	.....
117½	95½	124	97		50,000,000	100	Atlantic Refining	.....	June 16, 24	58,900	116¾	124	116¾	123¾	+7¼
117¾	113½	117½	115¼		20,000,000	100	do pfd	$1¾Q	May 1, 26	200	117¼	117¾	116¾	116¾	+1¾
33½	18¾	33½	23¾		25,000,000	25	Barnsdall Corp. A	50cQ	Apr. 2, 26	9,900	24½	25	23¾	24¾	+ ¼
30	16	29½	23¾		3,713,275	25	do B	50cQ	Apr. 2, 26	.....	.....	.....	.....	.....	.....
34¾	23¾	38⅛	30⅝	$	45,040,125	$25	California Petroleum	50cQ	June 1, 26	18,500	32½	32⅝	31	32⅛	— ⅜
70	42¾	73	50		23,542,500	100	General Asphalt	.....	.....	13,500	61½	62	61½	62¾	—1⅜
109	86½	114¾	94⅜		7,416,000	100	do pfd	$1¾Q	Jnne 1, 26	500	103¾	104½	103½	103½	+1½
59⅛	42	65¾	49½		29,429,550	25	General Petroleum	75cQ	June 1, 26	31,400	61½	62	60¼	61	— ⅜
85	59	72	50¾		25,000,000	100	Houston Oil	.....	.....	500	57	58⅛	58	58	+1
41¾	13½	34	19⅛	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Apr. 12, 26	18,900	24¼	25¾	24¼	24⅞	+ ¾
14¾	5½	13¾	9	$	3,204,590	$10	Indian Refining	.....	Dec. 15, 20	1,400	9½	10¼	9⅜	9½	+ ⅛
12⅝	6	12½	8		4,545,860	10	do ctfs	.....	.....	200	9	9	8⅛	8⅛	— ⅛
110	77	104	90¾		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1⅝	¼	⅜	¼		1,678,760	10	Kansas & Gulf	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	22¾	19⅛	(sh)	4,000,000	N.P.	Lago Oil & Transport	.....	.....	138,800	20	22⅜	20	21¾	+1¾
23¾	13¾	19⅛	12	(sh)	1,131,216	N.P.	Louisiana Oil Refining	.....	.....	7,700	14⅞	15¾	14⅛	14⅞	0
35½	20¾	28⅞	20¾	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	900	21½	22¾	21⅛	22	+ ⅜
60½	32¾	60¼	49¼	(sh)	1,895,823	N.P.	Marland Oil Co	$1Q	Mar. 31, 26	78,100	56¾	57¼	56	56¼	— ⅜
250	225	.....	.....	$	45,942,800	$100	Mexican Petroleum	$3Q	Apr. 20, 26	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	100	do pfd	$2Q	Apr. 20, 26	.....	.....	.....	.....	.....	.....
22½	29	12⅛	6	(sh)	945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	2,500	7½	7¾	7¼	7⅝	+ ⅛
38	25¾	37	28	(sh)	1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 23	8,300	30¾	31¾	30¼	31⅛	+ ½
94¾	83	100	90	$	6,718,000	$100	do pfd	$1¾Q	June 1, 26	400	97¼	100	97¼	100	+3¾
3¾	⅝	2½	1¼		25,415,540	10	Middle States	.....	July 1, 23	2,900	1⅜	1½	1⅜	1½	+ ⅛
1½	1½	1⅜	⅜		4,384,680	....	do ctfs	.....	.....	300	⅞	⅞	⅞	⅞	0
78½	51⅜	83¼	51	(sh)	3,500,000	N.P.	Pacific Oil	$1.50S.A.	Jan. 20, 26	53,500	51⅜	51½	51¼	51½	+ ⅛
83⅜	59½	76½	56⅛	$	48,307,400	$50	Pan American P. & T.	$1.50Q	Apr. 20, 26	1,700	65	65½	64⅛	65½	+1¾
84½	60⅜	78¾	56⅞		91,025,100	50	do B	$1.50Q	Apr. 20, 26	20,400	65¾	67¾	65¾	67	+1
49¾	37¾	46	34	(sh)	400,000	N.P.	Pan American Western B	50cQ	Apr. 30, 26	2,900	37⅜	37⅞	37½	37½	— ½
6¼	2¼	20½	4½	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	46,700	19¾	20½	18¾	19⅜	— ⅛
60½	37	90	51	$	2,935,200	$100	do pfd	.....	July 2, 23	400	88	88	87	87¾	+ ¾
47⅝	36¼	48¾	40	(sh)	2,406,692	N.P.	Phillips Petroleum	75cQ	Apr. 1, 26	38,500	45⅜	45¾	44⅝	44⅞	— ⅜
3½	1¼	1⅞	¾	$	29,622,925	$25	Pierce Oil Corp	.....	.....	1,100	1⅛	1⅛	⅞	⅞	0
40	20¾	27⅜	17		15,000,000	100	do pfd	.....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
8¾	4½	7	3⅜	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	7,000	3¾	3⅞	3¾	3¾	0
32⅝	12½	17½	11	$	11,467,850	$50	Producers & Refiners	.....	Sept. 15, 23	500	12¼	12¾	12⅛	12¾	+ ¾
47⅜	27	35	30¾		2,845,350	50	do pfd	.....	May 1, 25	100	31	31	31	31	0
33¾	25⅜	31	25¾		75,959,250	25	Pure Oil Co	37½cQ	June 1, 26	7,300	27	27	26¾	26¾	— ¼
108½	103	111¾	106		15,000,000	100	do 8% pfd	$2Q	Apr. 1, 26	.....	.....	.....	.....	.....	.....
57⅜	48¼	57⅜	50	(sh)	691,922	13.40	Royal Dutch, N. Y. shares	$1.339	Jan. 29, 26	5,000	52	53½	51⅞	52⅛	+ ½
49	39½	48⅝	41	(sh)	93,345	£2	Shell Transport & T	96½c	Jan. 22, 26	300	43⅜	43¾	43⅝	43¾	+ ¾
28⅜	21⅜	28⅜	24	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Mar. 31. 26	8,100	24¾	25	24¼	24¾	+ ⅜
106½	99½	107	103	$	20,000,000	$100	do pfd	$1½Q	May 15, 26	600	106½	106⅝	106	106	— ⅛
28½	17¾	28⅝	18		7,207,620	10	Simms Petroleum	50cS.A.	Jan. 2, 26	14,500	18½	19	18¼	18½	0
24⅞	17	24⅞	19⅜	(sh)	4,489,887	N.P.	Sinclair Consolidated	.....	May 31, 24	34,700	21	21⅞	20⅝	21¾	+1
94⅛	78¾	95½	90	$	17,852,200	$100	do pfd	$2Q	May 15, 26	900	93½	95½	93½	95½	+2½
32½	21¾	35⅜	26⅝		23,988,590	25	Skelly Oil Co	50cQ	Mar. 15, 26	20,000	33⅜	34⅜	33¼	33¾	+ ⅜
67¼	51½	62¼	52½		237,910,850	25	S. O. California	50cQ	Mar. 15, 26	10,600	54	55	53⅞	55	+1
.....	.....	54⅞	52⅝	(sh)	13,016,434	N.P.	S.O. California (new)	.....	.....	24,400	54	54⅞	54¼	54¾	+ ¾
47½	38⅜	46⅜	40¼		515,109,675	25	S. O. New Jersey	25cQ	Mar. 15, 26	4,200	44	44⅜	43½	44⅜	+ ⅝
119	116¾	119⅜	116¼		199,972,900	100	do pfd	$1¾Q	Mar. 15, 26	2,600	119	119⅜	118¾	118¾	— ⅜
43⅞	38⅜	41⅜	30⅜	(sh)	1,103,931	N.P.	Sun Oil	25cQ	Mar. 15, 26	700	32½	32½	32	32	— ½
6⅜	2	4¼	2¼	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	900	2¼	2¼	2¼	2¼	0
55	42¾	54	48	$	164,450,000	$25	The Texas Co	75cQ	Mar. 31, 26	28,000	50¾	51⅜	50½	51½	+ ¾
23¾	10⅛	19½	12⅛		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	500	13¼	13¾	13⅛	13⅝	+ ⅛
36⅞	30¼	39¼	30¼	(sh)	2,137,570	N.P.	Tide Water Oil Co	37½c	Mar. 31, 26	400	31½	32	31½	31⅞	+ ¾
101	99	103	90	$	20,672,900	$100	do 5% pfd	$1.25Q	May 15, 26	200	92⅞	92⅞	92½	92½	+ ¼
5⅞	3½	4¾	3	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	1,700	3½	3⅝	3½	3½	0
43⅜	33	49⅜	37¼	$	40,480,800	$25	Union Oil of California	50cQ	May 10, 26	18,600	44¾	44⅞	43	44½	0
134	96¼	94	80		24,423,300	100	Union Tank Car Co	$1¼Q	June 1, 26	3,100	89	93¾	89	93¾	+4⅜
117⅞	113¼	116⅜	113¼		12,000,000	100	do pfd	$1¾Q	June 1, 26	200	113¾	113¾	113¼	113¾	—1¼
31¾	25½	29¼	25⅛	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Apr. 20, 26	9,500	26	27	25⅝	26½	— ¼

*New High †New Low xEx-dividend Total Sales 767,900

Pittsburgh Stock Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended May 21 Sales	First	High	Low	Last	Ch'ge
.....	.....	6⅝	6¾	N.P.	Andes Petroleum	.....	.....	.....	.....	.....	.....
8¼	5¼	7	5¾	$10	Arkansas Nat. Gas.	732	6	6	5⅞	6	— ⅛
73¼	69¾	.....	.....	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
18	14½	17	12½	$10	Devonian Oil	30	13½	13½	13½	13½	— ½
112¾	105¾	115	112	$100	DuquesneLt.7%pfd.	10	114	114	114	114	0
95	90	.....	.....	100	Fayette County Gas.	.....	.....	.....	.....	.....	.....
.....	.....	10	5½	....	HoustonGulfGas(w.i.)	4,175	6½	9	6½	9	+2½
.....	.....	33½	30	25	Lone Star Gas Corp.	869	31¾	31¾	31½	31½	— ¼
37¼	31	36¾	33¾	25	Ohio Fuel Corp.	2,377	33¾	33⅞	33½	33⅝	+ ¼
34	26	34	28	25	Oklahoma Nat. Gas.	845	29⅜	30	29⅜	29¾	+ ¾
8¾	5	5⅝	4¾	5	Pittsburgh O. & G.	.....	.....	.....	.....	.....	.....
9¾	6	10	8	10	Salt Creek Cons.	110	8¼	8½	8¼	8½	0
13¾	8½	10	8½	10	Tidal Osage	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended May 21 Sales	First	High	Low	Last	Ch'ge
2¼	.60	3¾	2¼	$ 5	Colombia Synd.	.....	.....	.....	.....	.....	.....
.60	.15	15	15	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
9	5½	.....	.....	10	Forest Oil	.....	.....	.....	.....	.....	.....
92¾	64	91½	85	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
12½	8¾	12	7½	N.P.	Leonard Oil & Dvlp.	.....	.....	.....	.....	.....	.....
.....	.....	1⅝	1⅝	N.P.	Mountain & Gulf	.....	.....	.....	.....	.....	.....
2¾	1¾	.....	.....	1	Oklahoma Eastern	.....	.....	.....	.....	.....	.....
.47	.20	.20	.15	10	Omar O. & G.	.....	.....	.....	.....	.....	.....
.....	.....	2	1¾	....	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
27½	25	33	26	10	Plymouth Oil	1,036	29¼	30	29¼	30	+ ¾
7	3	5½	3	5	States Oil	200	4	4	4	4	0
4	1¾	3⅛	2¼	$ 1	Texon Oil & Land	2,400	2⅝	2¾	2⅝	2¾	0
11	9	9½	9¼	10	Tidal Osage	.....	.....	.....	.....	.....	.....
.....	.....	42⅝	41	N.P.	Waverly Oil Wks. A	.....	.....	.....	.....	.....	.....

*New High ‡New Low xEx Dividend

NEW YORK CURB BONDS

Week Ending May 21

	High	Low	Last	Ch'ge
Atl. Gulf & W I 5s '59	71	69½	69⅝	— ⅜
Cities Serv. 6s '66	93	91¾	92⅞	+1⅜
Cities Serv 7s "D" '66	104⅛	104	104⅛	+ ⅛
Galena S O 7s	97½	94½	94½	—4½
General Pet. 6s '28	102⅛	101⅝	101⅝	— ⅛
Gulf Oil 5s '37	100¾	100¼	100¾	+ ¼
Gulf Oil 5½s '27	100¾	100¾	100¾	— ¼
Gulf Oil 5½s '28	101½	101½	101½	0
Indepen. Oil 6½s '31	98½	97¼	98½	+1
Pan Amer Pet. 6s '40	100½	100	100	0
Pennok Oil 6s	100	100	100	0
Pure Oil 6½s '33	103⅜	103¼	103¼	+ ¼
S O N Y 6½s '33	106½	106¼	106½	+ ¼
Sun Oil 5½s '39	99⅞	99½	99¾	— ⅛
Tidal Osage 7s '34	103¾	103½	103¾	+ ⅛
Trans. Cont. Oil 7s '39	93½	93	93	0

NEW YORK BONDS

	High	Low	Last	Ch'ge
Amer. Rep. Cor. Deb. 6s	100	99¾	99¾	— ¼
Associated Oil gold 6s	103	102¾	103	0
Atlantic Refg. deb 5s	102¾	101	101	—1½
Barnsdall Corp. 6s	99⅝	99	99¼	— ⅜
Cal. Petrol sf 6½s	104	103¾	104	0
Empire Gas & Fuel 7½s	102	101½	102	+ ¼
Empire Gas & Fuel 6½s	97¾	97½	97½	0
Gen. Asphalt 6s	105	104¾	105	0
Gen. Petroleum 5s	101¼	99¾	100⅞	+1⅛
Humble Oil & Refg. 5½s	102¾	102⅜	102⅜	— ¼
Mid-Cont. Pet. 6½s	104⅞	103¾	104	+ ⅛
Pan-Amer. P. & T. 7s	106	105¾	106	+ ¾
Pan-Amer. P. & T. 6s	107¾	106⅝	106⅞	+ ¾
Pierce Oil deb 8s	106½	106⅛	106½	+ ⅜
Prod. & Refnrs. 8s	111¾	111¼	111¾	+ ¾
Sinclair Con. Oil Col. 7s	97	95⅞	97	+1⅛
Sinclair Con. Oil con. 6½s	93¼	90⅜	92¾	+2⅜
Sinclair Con. Oil 6s	107	105⅝	106¾	+1¾
Sinclair Crude Oil 6s	101⅛	100⅞	101	+ ⅛
Sinclair Pipe Line sf 5s	91¾	90¾	91½	+ ¾
Skelly Oil 6½s	138	134	138	+2
Superior Oil 7s	95	95	95	—1
Union Oil of Cal. 6s-A	107⅜	106	106	+ ⅜
Union Oil of Cal. 5s-C	98	97½	97¾	+ ¼

Standard Oil Stock Traded in New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended May 21 Sales	First	High	Low	Last	Ch'ge
26⅝	17¼	19¾	16¾	£ 4,000,000	£1	Anglo American	60¾cS.A.	May 27, 26	1,400	18	18⅜	17¾	18⅜	+ ⅝
4¼	1⅜	2¼	1¾	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	100	1¾	1¾	1¾	1¾	0
12⅜	3	4½	3¼	$ 10,000,000	$10	do pfd	.....	.....	.....	.....	.....	.....	.....	.....
240	205	255	226	1,000,000	100	Borne Scrymser	‡84S.A.	Apr. 15, 26	20	235	235	231	231	—4
72	53½	59½	52	10,000,000	50	Buckeye Pipe Line	$1Q	Mar. 15, 26	200	53	53	52	52	—1
74	48½	73¾	65	3,000,000	25	Chesebrough Mfg	75cQ	Mar. 31, 26	100	66½	66½	66½	66½	— ½
115	110	.....	.....	1,000,000	100	do pfd	$1¾Q	Mar. 31, 26	.....	.....	.....	.....	.....	.....
31½	21⅞	25⅞	19½	34,914,280	10	Continental Oil	25cQ	Mar.'15, 26	6,100	20⅝	21	20¼	20½	— ¼
17½	10	16	13½	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
150	132	137	110	3,000,000	100	Cumberland Pipe Line	$3Q	Mar. 15, 26	110	115	116	115	116	+1
96	61	63¾	47¾	5,000,000	100	Eureka Pipe Line	$1Q	May 1, 26	450	49½	52½	49½	52½	+3
68½	23½	32½	17	16,000,000	100	Galena Signal Oil	.....	June 30, 25	1,000	20¼	20¼	17	19	+1
105	88	94½	70	4,000,000	100	do new pfd	$2Q	Mar. 31, 26	130	74	74	70	70	—10
114	95	97½	70	2,000,000	100	do old pfd	$2Q	Mar. 31, 26	70	72	72	70	70¼	—7⅞
95	42¼	99⅝	52	43,750,000	25	Humble Oil & Refining	30cQ	Apr. 1, 26	11,400	63¾	66½	62½	65¼	+1¾
.....	.....	68⅜	53½	72,916,667	25	do new w. i	.....	.....	.....	.....	.....	.....	.....	.....
154½	127	144½	134¼	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 31, 25	170	142½	143	141	141½	—1½
39¼	27¼	38¾	31½	(sh) 6,491,852	N.P.	Imperial of Canada (new)	25cQ	June 1, 26	5,900	35½	36	34⅞	35⅞	+ ¾
84	57⅛	70	58	$ 5,000,000	50	Indiana Pipe Line	$1Q	May 15, 26	400	63¼	65	63¼	65	+1
33⅜	22⅛	35¼	28¾	(sh) 7,118,138	N.P.	International Petroleum	25c	Feb. 15, 26	15,400	31⅞	32¼	31⅜	32¼	+ ½
25⅝	16½	20⅝	15⅝	$ 6,362,500	$12½	National Transit	25cS.A.	Dec. 15, 25	400	16	16	15⅜	15⅜	0
79	49¼	51½	39	5,000,000	100	New York Transit	$1Q	Apr. 15, 26	50	45½	45½	45½	45½	— ½
88	67½	80½	70¾	4,000,000	100	Northern Pipe Line	$3S.A.	Jan. 1, 26	.....	.....	.....	.....	.....	.....
75¼	60¼	67⅜	58	60,000,000	25	Ohio Oil Co	50cQ	Mar. 31, 26	2,300	59	59	58	58	—1
44½	19	23	15	10,000,000	25	Penn Mex Fuel	50c	May 21, 25	100	17⅛	17⅛	17⅛	17⅛	— ⅞
65½	45⅞	60¼	48	60,000,000	25	Prairie Oil & Gas	50cQ	May 31, 26	5,700	55⅛	55⅝	53½	54	— ⅞
129¾	106	127½	122½	81,000,000	100	Prairie Pipe Line	$2Q	Apr. 30, 26	650	124¾	125	124¼	125	+1
254	200	212	191	4,000,000	100	Solar Refining Co	$5S.A.	Dec. 19, 25	50	195	198	195	196	—2
103	63	74½	61½	10,000,000	100	Southern Pipe Line Co	$1Q	Mar. 1, 26	.....	.....	.....	.....	.....	.....
197	139	197	152	20,000,000	100	South Penn Oil Co	$1.50Q	Mar. 31, 26	40	155	155	155	155	+3
47½	45	50	37½	20,000,000	25	do new	.....	.....	200	38½	38½	37½	37½	— ⅝
84	50	56	51¾	3,500,000	100	South West Pa. Pipe Line	$1Q	Apr. 1, 26	.....	.....	.....	.....	.....	.....
.....	.....	58¾	51½	(sh) 12,602,434	N.P.	S. O. California (new)	.....	.....	.....	.....	.....	.....	.....	.....
70¾	59½	70½	61⅝	$ 223,756,258	$25	S. O. Indiana	62½cQ	Mar. 15, 26	12,600	63⅞	64¼	63⅛	63¾	— ⅛
46	30⅝	36⅜	25	8,000,000	25	S. O. Kansas	.....	June 16, 24	800	27	27	26¾	27	+ ¼
137	114¾	134⅜	108	16,864,434	25	S. O. Kentucky	$1Q	Mar. 1, 26	700	117	118⅜	117½	118⅜	+1⅜
270	231	275	183	4,500,000	100	S. O. Nebraska	$5S.A.	Dec. 19, 25	20	183	183	183	183	+2
.....	.....	.....	.....	.....	.....	do new w.i	.....	.....	1,300	46¼	47	45¼	45½	+ ⅛
48⅝	40¼	47¼	30¾	227,535,300	25	S. O. New York	35cQ	Mar. 15, 26	104,100	31¾	31⅞	30⅝	31	— ⅛
369	338	362	292½	14,000,000	100	S. O. Ohio	$2½Q	Apr. 1, 26	170	307	307	292½	300	—10
123	116	120	117	7,000,000	100	do pfd	$1¾Q	June 1, 26	60	118½	118½	117½	117½	—2½
27	12	23	15½	1,722,931	25	Swan-Finch Co	.....	Nov. 1, 19	.....	.....	.....	.....	.....	.....
109½	80¼	112	95¾	61,919,950	25	Vacuum Oil Co	50cQ	Mar. 20, 26	3,800	98⅛	100¾	98¾	100½	+2

Borne Scrymser $2 extra April 15 $4 extra Oct. 15 $4 extra April 15 ‡Vacuum 50c extra Mar. 20, June 20, Sept. 19 Dec. 19 Dec. 19 special $1 Dec 19 S.O. Neb. $10 extra Dec 1 special $1 Dec. 19 S O Neb. $10 extra Dec. 19 Ohio Oil 50c extra Dec. 31. Chesebrough 62½c extra Dec. 29. Buckeye P. L. 50c extra Mar. 15. National Transit 50 extra Mar. 15. Indiana P. L. $1 May 15.

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended May 21 Sales	First	High	Low	Last	Ch'ge
11½	2½	14½	5	....	Amer. Maracaibo	7,400	6¾	7	6⅝	7	+ ⅛
8⅜	5	6¾	5⅞	$10	Arkansas Natural Gas	200	6	6	6	6	0
.....	.....	19¼	14⅝	N.P.	Beacon Oil	4,600	14⅞	15⅜	14⅞	15¼	+ ⅜
47½	38	.....	.....	$25	British-American	.....	.....	.....	.....	.....	.....
10¼	¾	22⅞	9¼	25c	Carib. Syndicate	3,900	13⅛	13¼	12½	13¼	+ ½
43	35	42⅝	37½	$20	Cities Service	11,500	40⅝	40⅞	40¼	40⅝	+ ⅜
85⅝	80¼	85⅞	82¾	100	do preferred	2,800	85	*85⅞	85	85⅞	+ ⅞
8	7¼	7½	7⅜	10	do preferred B	200	7⅜	7⅜	7⅜	7⅜	0
21⅜	17½	20⅝	19	10	do bankers' sh	200	20¼	20¾	x20¼	20¾	0
2¾	.60	3½	⅛	N.P.	Colombia Syndicate	10,800	2¼	2 3/16	2¼	2 3/16	0
15	8¼	15¼	10	N.P.	Creole Syndicate	5,600	11⅝	12	11⅝	12	+ ¼
12¼	5	7⅜	1⅝	N.P.	Crown Central	200	2	2	2	2	0
7	2	3¾	2	N.P.	Derby Oil & Refining	.....	.....	.....	.....	.....	.....
27	10½	17½	13	N.P.	do preferred	.....	.....	.....	.....	.....	.....
6	1⅜	7½	3⅞	N.P.	Gibson Oil	51,200	6	6	5	6	0
3¾	1⅜	2	.63	N.P.	Gilliland v. t. c	900	65	65	†63	63	—3
98¼	63½	93¾	82	$25	Gulf Oil Corp	700	84⅝	85⅛	84⅝	85	+ ⅛
5⅞	2¼	4	2¼	N.P.	Kirby Petroleum	5,600	2½	3⅜	2½	2¾	+ ⅛
23¼	17⅞	25⅞	16½	N.P.	Lago Oil & Trans. A	.....	.....	.....	.....	.....	.....
11¾	4⅝	13	8½	N.P.	Lago Petroleum	.....	.....	.....	.....	.....	.....
13	6	12¼	5¾	N.P.	Leonard Oil & Dev	10,200	8⅝	8⅝	8	8	— ¾
25⅞	18	25¾	20	N.P.	Lion Oil Refining	1,300	20¼	20½	†20	20⅜	— ⅜
4¼	1¾	2¾	2⅝	N.P.	Marland of Mexico	.....	.....	.....	.....	.....	.....
5¾	.56	5½	3⅝	$10	Mexican-Panuco	20,100	4⅜	5	4⅜	5	+ ½
2	1	1¾	1⅝	1	Mountain & Gulf	.....	.....	.....	.....	.....	.....
26¾	18⅜	26	23	10	Mountain Prod	3,700	24⅜	25	24⅜	25	+ ¾
6¾	3⅝	6¾	5⅞	5	New Bradford	2,200	6⅛	6¼	6⅛	6¼	+ ⅛
24¾	16¾	5½	2	10	New England Fuel	200	5½	5½	5½	5½	+ ⅛
19⅜	6¼	17	9⅝	1	New Mexico & Ariz	900	10½	10⅝	10¼	10½	0
12½	8¼	17	8	$5	New York Oil	300	12	12	11½	11½	— ⅞
37	14	36	34¼	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
2½	.90	2¾	.70	N.P.	Peer Oil Corp	2,000	70	74	70	74	+4
28¼	16	22¾	18½	$10	Pennok Oil	300	19⅛	19⅛	19	19	— ⅛
44½	16	38	14⅝	25	Red Bank Oil	7,000	29¾	*38	29¾	35⅛	+7⅛
33½	19	24⅞	14½	N.P.	Reiter-Foster	3,500	21¼	22¾	21	22⅛	+ ⅛
9½	3½	7½	4⅝	N.P.	Ryan Consolidated	1,300	5¾	5¾	5⅛	5⅛	+ ⅛
9¾	6⅜	10	8	$10	Salt Creek Cons	2,400	8½	8⅝	8⅜	8½	— ¼
35	24	36	28⅞	10	Salt Creek Prod	2,000	30½	30¾	30	30¼	— ⅛
3⅞	1	2¾	1⅝	5	Savoy Oil	800	3	3⅛	3	3⅛	+1⅛
13¾	9	10	7⅝	10	Tidal Osage	.....	.....	.....	.....	.....	.....
10⅞	8	10	8¼	10	do non-voting	300	8¼	8¼	8¼	8¼	0
.....	.....	27	21	N.P.	Tide Water Associated	3,500	23¾	24	23½	23¾	— ⅛
.....	.....	99¼	97½	100	Tide Water Associated preferred	1,100	97½	97½	97½	97½	0
4⅞	1¾	8	4¼	5	Venezuelan Pet	65,700	6½	7⅜	6½	7	+ ⅛
.....	.....	29⅜	23½	....	Warner-Quinlan w. i	2,800	25¼	28	25⅛	27½	+2
31¼	22⅝	27¼	22	N.P.	Wilcox Oil & Gas new	3,800	24¼	27	24¼	27	+2¼
7	3⅞	6⅛	4⅜	N.P.	Woodley Petroleum	500	4⅜	5⅝	† 4⅜	5½	0

*New High †New Low xEx-dividend

Financial Notes

Amerada Corp.—Board of directors increased from five to nine members by election of Ernest B. Tracey, Dean Mathey, John H. Hillman, Jr., and John M. Lovejoy. Alfred Jacobsen, formerly managing director of the Mexican Eagle Oil Co., has been appointed a director and has taken up headquarters in New York. Initial dividend of 40 cents per share have been declared.

Atlantic Refining Co.—Articles of incorporation filed in California naming Hubert T. Morrow as agent and giving Los Angeles as headquarters.

Independent Oil & Gas Co.—Net profits for first quarter after all charges and reserves including taxes, amounted to $370,788 or 74 cents a share on 500,000 shares outstanding compared with $366,-800 or 81 cents a share in first quarter of 1925 on 450,000 shares outstanding then.

Phillips Petroleum Co.—Earnings in first quarter were $6,121,264 after expenses, and taxes but before depreciation and depletion, compared with $5,230,290 in first quarter of 1925. All directors and officers were re-elected.

Admitted to New York Stock Exchange List—4,000,000 no par shares of Lago Oil & Transport Corp., which now have full voting right; 13,016,434 no par shares of Standard Oil Co. of California (Delaware), and $2,500,000 additional $25 stock of California Petroleum Corp.

Lone Star Gas Corp.—1,200,000 $25 shares of new Delaware corporation admitted to New York Curb Market.

Lago Oil & Transport Corp.—Class A stock without voting right removed from New York Curb list when stock cancelled and voting authorized in its stead.

Oil Dividends

	Amt.	Payable	Stock of Record
Anglo-American final	60¾c	May 27	.....
Ark. Nat. Gas q	8c	July 1	June 10
Big Lake	25%	June 29	June 22
Cumberland P. L. q	$3	June 15	May 29
Illinois P. L. s. a	$6	June 30	May 27
Nat'l Transit q	25c	June 15	May 29
Plymouth Oil m	50c	June 30	June 22
do extra	25c	June 30	June 22
Phillips Pet. q	75c	July 1	June 16
Simms Pet s. a	50c	July 1	June 15
S. O. New Jersey q	25c	June 15	May 27
do pfd	$1.75	June 15	May 27
Valvoline q	1½%	June 17	June 1

Cleveland Stock Market

May 21

	Par	Bid	Asked	Last Sale
Canfield Oil Co	$100	.....	.....	107
do pfd	100	.....	96	100
Fred G. Clark Co	10	2⅜	3¾	3¼
National Refining Co	25	37	39⅛	38
do pfd	100	127	135	129½
Paragon Refining Co	25	6½	7	6½
do pfd	100	53	67	67

x—ex dividend.

THE OIL INDUSTRY EXCHANGE

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Construction and Maintenance Superintendent. Eight years experience designing, erecting, operating and maintaining bulk storage plants and service stations. Ohio territory. Box 612.

Young Man With Selling Experience—Desires refinery connection as Sales Representative. Have some acquaintance with trade. Would like to work for time in producing and refining branches of industry. Box 611.

Young Married Man Now Employed desires connection with well rated independent jobber or refiner. Five years experience in sale and manufacture of petroleum products. Understands all methods routine testing. Consider anything where there is chance for advancement in accordance with ability. Prefer to stay in Texas or Oklahoma, but willing to go anywhere. Box 610.

REFINING MANAGER OR ASSISTANT

Have just completed installing very comprehensive program for reducing process costs and increasing production in four refineries of one of largest and oldest refining organizations in U. S.

Can be available about July 1 for the above position. Consulting and manufacturing experience in cutting costs, boosting yields and production, process development and assisting in financing in Mid-Continent, Atlantic Seaboard, Penna. and Mexican Districts. Will also consider a new project, offering sufficient participation, after careful analysis. Box 608.

Situations Open

We need an active young man with tact and resourcefulness who knows the Oil Trade, to visit them on our behalf. Engineering education an assistance but not necessity. National Petroleum Mutual Fire Insurance Co., 708 South Washington Square, Philadelphia, Pa.

WANTED—Petroleum Engineers and Experienced Refinery Draftsman.

With large oil corporation located at New Orleans. Answer giving training, practical experience, age, and salary expected. Box 614.

DISTRICT SALESMAN AND MANAGER wanted by large middle western oil corporation of the highest standing. Territory open in Kansas.

Applicant must be 25 to 35 years of age, preferably married, and must have absolutely clean record. Moderate salary to start, and future advancement assured to man who can get results.

Give full details about yourself in first letter and state who now working for. All replies held in strict confidence. Box 613.

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A CO-OPERATIVE TULSA BUYING OFFICE

Your orders for petroleum products placed direct with responsible refiners.

Wire or Write for Particulars

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L. D. 136

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Located in Illinois, gallonage 500,000 yearly, storage 80,000 gallons, priced reasonable, good reason for selling. Box 609.

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Located in Eastern Ohio City. Excellent buy; will require $25,000 cash to swing deal. Owners have good reason for selling.

Box 602
Care of National Petroleum News

Miscellaneous

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If you have, National Petroleum News can put you in touch with buyers. Look over your old equipment, jot down what you don't need and send in a little "For Sale" advertisement.

The OIL INDUSTRY EXCHANGE is read by a large part of the oil industry each week.

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